

MASS. UM500.2: EC74



312066 0269 6254 6

THE ECONOMIC & FISCAL IMPACT OF THREE CASINO & ENTERTAINMENT RESORTS IN MASSACHUSETTS:

SALISBURY BEACH, HAMPDEN & BRISTOL COUNTIES



GOVERNMENT DOCUMENTS
COLLECTION

DEC 1 1999

University of Massachusetts
Depository Copy

Prepared for

THE VISIONS GROUP

By

Clyde W. Barrow, Ph.D., Director

David R. Borges, M.P.A., Senior Research Associate

CENTER FOR POLICY ANALYSIS
UNIVERSITY OF MASSACHUSETTS DARTMOUTH

April 1999

UNIVERSITY OF MASSACHUSETTS DARTMOUTH CENTER FOR POLICY ANALYSIS

The University of Massachusetts Dartmouth Center for Policy Analysis was established in 1985 as a multidisciplinary research unit dedicated to the creation and dissemination of knowledge that facilitates economic, social, and political development. The Center for Policy Analysis aims to enhance the economic and social well-being of citizens by providing research, information, and technical assistance to government, non-profit, and educational agencies. The Center for Policy Analysis does not pursue a predetermined research agenda, but is a flexible research organization responding on a timely basis to problems and issues identified by client agencies.

Clyde W. Barrow, Ph.D., Political Science
Director

EXECUTIVE BOARD

David Borges, M.P.A., Public Administration
Senior Research Associate

Victor DeSantis, Ph.D., Political Science
Adjunct Research Associate

Jeffrey Dense, Ph.D., Political Science
Senior Research Associate

Robert Hackey, Ph.D., Political Science
Senior Research Associate

William Hogan, Ph.D., Economics
Senior Research Associate

Toby Huff, Ph.D., Sociology
Senior Research Associate

Susan Krumholz, J.D., M.S., Sociology
Senior Research Associate

Philip Melanson, Ph.D., Political Science
Senior Research Associate

Paul Vigeant, M.A., Public Administration
Adjunct Research Associate

Luther Wallin, M.R.P., Regional Planning
Senior Research Associate

EXECUTIVE STAFF

David Borges, M.P.A., Public Administration
Senior Research Associate

Shawna E. Sweeney, M.A., Political Science
Research Associate

Michelle A. Cote, Political Science
Research Assistant

ADJUNCT RESEARCH ASSOCIATES

Gordon Arnold, Ed.D., Education
Monseratt College of Art

Victor DeSantis, Ph.D., Political Science
Bridgewater State College

Victor Gautam, Ph.D., Economics
Cape Cod Community College

Paul Vigeant, M.A., Public Administration
Southeastern Massachusetts Partnership

Correspondence and inquiries should be addressed to: Center for Policy Analysis, University of Massachusetts Dartmouth, 285 Old Westport Road, North Dartmouth, Massachusetts 02747-2300 (telephone: 508-999-8943; fax: 508-999-8374). E-mail: umassdpolicy@umassd.edu

Copyright © Center for Policy Analysis. All rights reserved. This document may not be reproduced in any form without prior written permission from the Center for Policy Analysis.

The information and analysis in this report does not represent an official statement or view of the University of Massachusetts.

Economic Research Series No. 19

OPERATIONS PHASE

The economic impacts of casino resorts located at Salisbury Beach, Bristol County, and Hampden County have been calculated to measure local impacts and regional impacts using an input-output model based on conventions of the U.S. Bureau of Economic Analysis. The direct, indirect, and induced impacts have been estimated on the basis of current (1998) earnings specific to each local and regional area and on the basis of a business profile specific to a casino resort facility.

It is estimated that with local vendor and employment preferences a Salisbury Beach casino resort would generate 2,935 new jobs in Essex County. These new jobs will generate an additional \$57.4 million in regional personal income. The total economic impact, including indirect and induced impacts, would generate 3,927 new jobs and an additional \$91.8 million in personal income in Essex County.

The realization of these employment gains would reduce the current (January 1998) Essex County unemployment rate from 3.5% to 2.4% with an even more dramatic impact on the unemployment rates of Salisbury and its contiguous communities.

It is estimated that with local vendor and employment preferences a Bristol County casino resort, located in New Bedford or Fall River, would generate 3,059 new jobs in Bristol and Plymouth Counties with 2,935 of those jobs located in the immediate vicinity of New Bedford or Fall River and adjacent communities. These new jobs will generate an additional \$55.1 million in regional personal income. The total economic impact, including indirect and induced impacts, would generate 4,024 new jobs in Bristol County with 3,765 of those jobs located in the immediate area of New Bedford or Fall River. This would generate an additional \$86.4 million in local personal income.

The realization of these employment gains would reduce the current (January 1998) Bristol County unemployment rate from 5.4% to 3.8% with an even more dramatic impact on the unemployment rates of New Bedford and Fall River.

It is estimated that with local vendor and employment preferences a Hampden County casino resort, located in Palmer or Holyoke, would generate 3,059 new jobs in Hampden County with 2,935 of those jobs located in the immediate area of Palmer or Holyoke. These new jobs will generate an additional \$56.2 million in regional personal income. The total economic impact, including indirect and induced impacts, would generate 4,125 new jobs in Hampden County with 3,501 of those jobs located in the immediate area of Palmer or Holyoke. These new jobs will generate an additional \$90 million in regional personal income.

The realization of these employment gains would reduce the current (January 1998) Hampden County unemployment rate from 4.3% to 2.4% with an even more dramatic impact on the unemployment rates of Palmer, Holyoke, and surrounding communities.

The total annual statewide economic impact of operating three casino resorts with local vendor and employment preferences will be 13,379 jobs and \$362 million in additional personal income, including direct, indirect, and induced impacts.

The most significant indirect and induced impacts will occur in firms such as maintenance and repair services, motor freight transport, wholesale trade, food stores, other eating and drinking establishments, and miscellaneous retail trade.

Job Quality

The construction and operation of three casinos in the identified locations will not only improve employment levels in the three counties, but improve job quality in traditionally low-wage service sectors. The average annual earnings of casino employees are from 7% to 79% higher than the annual earnings of employees currently working in similar industry sectors in the three counties. These earnings comparisons do not include tip income, which can equal three times the wages of dealers, waiters, and waitresses. A majority of the new casino jobs are full-time jobs with benefits unlike comparable non-casino jobs.

Additional State and Local Tax Revenues: Operations Phase

It is conservatively estimated that the operation of three casino resorts in Massachusetts will generate a total of \$58.4 in state tax revenues in addition to the \$150.4 million in special gaming taxes levied in Senate No. 352. The operation of three casino resorts in Massachusetts will annually generate \$13.3 million in additional state personal income tax revenues and \$45.1 million in indirect business taxes, such as excise and sales taxes.

The casino resort facilities will each cost \$300 million to construct and outfit with furnishings, gaming devices, and other equipment. For purposes of local property tax estimates, the construction cost has been discounted by one-third to yield an assessed valuation of \$200 million per facility. Based on the Fiscal Year 1999 commercial property tax rates effective in each host community, a casino resort would generate annual property tax revenues of more than \$3 million for Salisbury, \$3.5 million for Palmer, \$6.2 million for Holyoke, \$7.2 for Springfield, \$4.8 million for Fall River, or \$6.4 million for New Bedford. These property taxes are in addition to the special gaming tax on gross gaming revenues that is earmarked for host communities by Senate No. 352.

Social Savings: Operations Phase

It is estimated that increases in employment due to casino operations will remove approximately 1,860 persons (15.4% of total new employment) from the state's Temporary Assistance to Needy Families program. The transition of these persons into the labor force will save the state approximately \$11.8 million annually.

METHODOLOGY

The economic impacts were estimated using IMPLAN (IMpact Analysis for PLANing); an econometric modeling system developed by applied economists at the

THE ECONOMIC AND FISCAL IMPACT OF THREE CASINO & ENTERTAINMENT RESORTS IN MASSACHUSETTS: SALISBURY BEACH, HAMPDEN COUNTY, AND BRISTOL COUNTY

EXECUTIVE SUMMARY

The University of Massachusetts Dartmouth Center for Policy Analysis was engaged by The Visions Group, a consortium of community and business leaders, to analyze the potential economic and fiscal impacts of casino gaming in Massachusetts. The "Massachusetts Casino Control Act" (Senate No. 352) is currently pending before the state legislature. The proposed legislation authorizes the state to issue one license to operate a casino in the Town of Salisbury, one license in Hampden County, and one license in Bristol County.

Based on the current legislation, and existing proposals for casino construction, the analysis assumes that three casino gaming and entertainment complexes will be authorized in Massachusetts. These facilities will most likely be located at Salisbury Beach, in the Town of Palmer (Hampden County), and the City of Fall River or New Bedford (Bristol County). These locations are consistent with the proposed legislation and conform to citizen preferences as indicated by a recent public opinion survey published by the *Boston Herald* (2-14-99), which indicates that registered voters consider Salisbury Beach (33%) and the Fall River/New Bedford (27%) area as the best locations for casinos.

DESCRIPTION OF THE FACILITIES

The Center for Policy Analysis conducted its analysis of the potential economic and fiscal impacts of three casinos in Massachusetts using a "common denominator" facility derived as an average of current proposals put forward in Salisbury and Palmer and on previous proposals advanced in New Bedford and Fall River. The analysis assumes the construction of a \$300 million casino resort complex in Salisbury Beach, Palmer or Holyoke, and New Bedford or Fall River.

The three facilities would each include gaming space with 3,000 slot machines and 120 tables, a 1,000 room hotel with enclosed health club and swimming pool, a 40,000 square foot conference center, a 2,000 seat theater showroom, and 50,000 square feet of retail space. Each facility would include multiple food and beverage areas sufficient to accommodate up to 1,520 persons. The three facilities would offer a major non-gaming attraction unique to each site and provide 5,000 parking spaces with a combination of garage and surface parking areas.

It is estimated that the Salisbury Beach facility will generate \$379.9 million in gross gaming revenues annually; Bristol County will generate \$448.3 million in GGR annually; and that the Hampden County facility will generate \$539.5 million in GGR annually. Arthur Andersen estimates that casino operations create 13 direct jobs for each \$1 million in gross gaming revenue. However, these figures include casinos in the

traditional gaming venues of Nevada and New Jersey. The Center for Policy Analysis has used a more conservative estimate that is based on employees per GGR at casinos located in non-traditional venues.

The Center estimates that the three proposed casinos would each generate 3,155 full- and part-time positions through direct employment. This estimate yields a range of 5.8 jobs per \$1 million in GGR in Hampden County to 8.3 jobs per \$1 million in GGR at Salisbury Beach. These ratios are well below Arthur Andersen's national average, but they provide a more realistic and conservative estimate of employment, personal income, and other impacts.

The Center for Policy Analysis has calculated the economic impacts of the three facilities separately for the *construction phase* and the *operations phase* of each facility. Employment is defined as total wage and salary employees and self employed jobs in a region. It includes both full-time and part-time workers. The data sets used to calculate total employment are the ES202 data, County Business Patterns, and the Regional Economic Information System. Personal income is wages, benefits, and other income derived from employment linked geographically to the workplace site. However, personal income *does not* include tip income, which can equal up to three times the wages of dealers, waiters, and waitresses, among others.

CONSTRUCTION PHASE

It is estimated that the construction phase of a \$300 million casino development would generate 2,055 direct construction jobs and \$75.9 million in direct personal income in Salisbury; 2,091 direct construction jobs and \$74.1 million in direct personal income in Hampden County; and 2,115 direct construction jobs and \$73 million in direct personal income in Bristol and Plymouth Counties. The total economic impact, including indirect and induced impacts, would generate 3,935 new jobs and \$132 million in personal income in Essex County; 4,018 jobs and \$126.7 million in personal income in Hampden County; and 3,923 jobs and \$123.6 million in personal income in Bristol County. The total statewide economic impact of constructing three casino resorts will be 12,639 jobs and \$445.1 million in personal income, including direct, indirect, and induced impacts.

The most significant indirect and induced impacts will occur in firms involved in landscape and horticultural services, millwork, heating and refrigeration equipment, wholesale trade, motor freight transport, business services, equipment rental, and various professional services.

Additional State Tax Revenues: Construction Phase

It is conservatively estimated that the construction phase will generate a total of \$16.2 million in additional state personal income tax revenues and \$36.5 million in indirect business taxes such as excise and sales taxes.

University of Minnesota and the U.S. Forest Service. The IMPLAN modeling system has been in use since 1979 and is currently used by over 500 private consulting firms, university research centers, and government agencies. The IMPLAN system uses input-output analysis to construct quantitative models of relationships (trade flow) between businesses and between businesses and final consumers. From this data, one can examine the effects of a change in one or several economic activities to predict its effect on a specified economic area (impact analysis).

IMPLAN discerns and calculates leakage from local, regional, and state economic areas based on workforce configuration, the inputs required by specific types of businesses, and the availability of both inputs in the economic area. Consequently, economic impacts that accrue to other regions or states as a consequence of a change in demand are not counted as impacts within the economic area. The model accounts for substitution and displacement effects by deflating industry-specific multipliers to levels well below those recommended for Massachusetts by the U.S. Bureau of Economic Analysis.

The estimates of construction phase impacts are based on final demand of \$224 million for each casino resort development to exclude the purchase of slot machines, gaming equipment, and other furnishings that will be imported from outside the region.

The estimates for personal income tax payments assume an effective tax rate of 4.5% on employee earnings (personal income net of benefits) even though the actual effective tax rates in Massachusetts are 4.8% for non-joint filers and 5.4% for joint filers according to the Massachusetts Department of Revenue. The estimates of indirect business taxes are derived from U.S. Bureau of Economic Analysis Gross State Product data.

The estimates of social savings are based on previous econometric analyses, which find that an additional 1,000 jobs reduces AFDC/TANF rolls by 154 to 260 recipients (Arthur W. Wright & Associates 1993, 3). The Center has used the more conservative estimate. The average AFDC/TANF monthly payment per family in Massachusetts was \$528 in 1996.

LEGISLATIVE OVERSIGHT

The Massachusetts Casino Control Act (Senate No. 352, section 5(g)) includes legislative oversight provisions that will allow the state to evaluate the three casino resorts' economic impacts on the state and local communities. The Casino Control Act requires the proposed Casino Enforcement Bureau to submit annual reports to the House and Senate Ways and Means Committees and the Joint Committee on Government Regulations. This legislation mandates that the annual report include data on gross revenue, net revenue, average depreciation of each casino licensee, the number of persons employed by each licensee, employee payroll information, and the assessed valuation of each licensed casino facility.

TABLE OF CONTENTS

	Page
EXECUTIVE SUMMARY.....	i
LIST OF FIGURES.....	vii
LIST OF TABLES.....	
1.00 PURPOSE OF THE STUDY.....	1
1.10 The Gaming Industry	
1.20 Description of Casinos Proposed for Massachusetts	
2.00 DESCRIPTION OF PROPOSED HOST COMMUNITIES.....	7
2.10 Salisbury	
2.20 Palmer	
2.30 Holyoke	
2.40 New Bedford	
2.50 Fall River	
3.00 ECONOMIC IMPACTS OF THREE CASINOS.....	19
3.10 Definitions	
3.20 Methodology: The Implan Modeling System	
3.30 Construction Phase	
3.40 Operations Phase	
3.41 Employment & Income Impacts	
3.42 Impact on Unemployment Rates	
3.43 Job Quality	

TABLE OF CONTENTS

	Page
4.00 FISCAL IMPACTS OF THREE CASINOS.....	31
4.10 Special Gaming Taxes	
4.20 State Personal Income Tax Payments	
4.21 Construction Phase	
4.22 Operations Phase	
4.30 Indirect Business Taxes	
4.31 Construction Phase	
4.32 Operations Phase	
4.40 Local Property Taxes	
4.50 Social Savings	
4.60 Potential Impact on the State Lottery	
4.70 Legislative Oversight	
4.80 Substitution Effects	
4.90 Micro-Studies of Casinos in Non-Traditional Venues	

LIST OF FIGURES

	Page
Figure 1. Salisbury: Population, 1980 to 2010.....	7
Figure 2. Salisbury: Total Average Annual Employment, 1990 to 1997	8
Figure 3. Salisbury: Employment by Sector, 1997.....	9
Figure 4. Palmer: Population, 1980 to 2010	9
Figure 5. Palmer: Total Average Annual Employment, 1990 to 1997.....	11
Figure 6. Palmer: Employment by Sector, 1997.....	11
Figure 7. Holyoke: Population, 1980 to 2010.....	12
Figure 8. Holyoke: Total Average Annual Employment, 1990 to 1997.....	13
Figure 9. Holyoke: Employment by Sector, 1997.....	13
Figure 10. New Bedford: Population, 1980 to 2010.....	14
Figure 11. New Bedford: Total Average Annual Employment, 1990 to 1997.....	15
Figure 12. New Bedford: Employment by Sector, 1997.....	16
Figure 13. Fall River: Population, 1980 to 2010.....	16
Figure 14. Fall River: Total Average Annual Employment, 1990 to 1997.....	18
Figure 15. Fall River: Employment by Sector, 1997.....	18

LIST OF TABLES

	Page
Table 1. Casino Resort & Entertainment Complex.....	6
Table 2. Casino Resort: Staffing.....	22
Table 3. Construction: Employment Impacts.....	23
Table 4. Construction: Personal Income Impacts.....	24
Table 5. Operations: Employment Impacts.....	25
Table 6. Operations: Personal Income Impacts.....	26
Table 7. Impacts on Unemployment Rates and Welfare Dependency.....	28
Table 8. Casino Average Annual Earnings.....	29
Table 9. Estimated Gaming Revenues.....	32
Table 10. Estimated Property Tax Receipts for Casino Resorts.....	34
Table 11. Comparison of RIMS II and IMPLAN Multiplier.....	37

[This page left blank intentionally for double-sided copying]

1.00 PURPOSE OF THE STUDY

The University of Massachusetts Dartmouth Center for Policy Analysis was engaged by The Visions Group, a consortium of community and business leaders in Salisbury, Massachusetts, to analyze the potential economic and fiscal impacts of casino gaming in Massachusetts. The "Massachusetts Casino Control Act" (Senate No. 352) was filed in the 1999 legislative session. The legislation would authorize the state to issue one license for the operation of a casino in the Town of Salisbury, one license in Hampden County, and one license in Bristol County. Based on the current legislation, and existing proposals for casino construction, this analysis assumes that three casino gaming and entertainment complexes will be authorized in Massachusetts.

The facilities will most likely be located at Salisbury Beach, in the City of Fall River or New Bedford (Bristol County), and the Town of Palmer or the City of Holyoke (Hampden County). These locations are consistent with the proposed legislation and conform to citizen preferences as indicated by a recent public opinion survey published by the *Boston Herald* (2-14-99), which indicates that registered voters consider Salisbury Beach (33%) and the Fall River/New Bedford (27%) area as the best locations for casinos.

1.10 THE GAMING INDUSTRY

The United States casino gaming industry reported total revenues of approximately \$25 billion in 1995 with \$16.3 billion of that amount derived specifically from gaming activities (gross gaming revenues) and the other \$9 billion coming from hotel, entertainment, restaurant, and retail sales. These revenues yielded \$7.3 billion in wages for the 284,000 persons employed directly by casinos nationwide. Casinos and their employees paid approximately \$2.9 billion in taxes to federal, state, and local governments (Cohn & Wolfe 1999, 6-23). These figures do not include the revenues generated each year by Native-American casinos, cruise ship casinos, and non-casino based video/slot machines.

The casino gaming industry also spends more than \$4 billion annually on construction, real estate, furniture, and equipment. It is no longer uncommon for individual companies to invest \$100 million to \$1 billion for the construction of a new facility or to spend several million dollars to expand an existing facility. The casino industry's capital expenditures create more than 40,000 direct jobs annually (Arthur Andersen 1996, 1, 5).

Casino gaming revenues more than doubled between 1990 and 1995 largely due to the introduction of legalized gaming in non-traditional venues; namely, states other than Nevada and New Jersey. Although traditional venues still account for 67% of all gaming revenues in the United States, non-traditional venues increased their share of the total market from 0.1% in 1990 to 33% in 1995. In 1989, South Dakota became the first state to

authorize casino gaming in a non-traditional jurisdiction with limited stakes gaming at Deadwood, South Dakota. South Dakota was followed in quick succession by Colorado (1990), Illinois (1990), Mississippi (1990), Iowa (1991), Louisiana (1991), Missouri (1992), and Indiana (1994).¹ Most states have authorized riverboat or dockside venues except for South Dakota and Colorado. Visits to the non-traditional casino destinations has grown twice as fast as visits to the traditional destinations in Nevada and New Jersey (Harrah's 1997).

Another significant legal development that has changed the scope of the non-traditional gaming market is the Indian Gaming Regulatory Act (IGRA), which was passed by the U.S. Congress in 1988 (25 U.S.C. 2701). IGRA allows federally recognized tribes to engage in any commercial gaming activity that is not prohibited in a state where the tribe owns land. The IGRA requires States to conduct good faith negotiations with tribes and allows States to offer exclusivity over commercial gaming in exchange for a share of gaming revenues. In 1998, there were 157 Native American casinos located in 24 states (Department of Interior 1998). The Native American casinos are not required to publish revenue and other financial information so it is difficult to know their exact effect on the U.S. economy, but it has been estimated that Native American casinos generate an additional \$6 billion to \$7 billion per year in gross gaming revenues (Deloitte & Touche 1993).

Casino gaming in one form or another - including riverboat facilities and Native American operations - is now available in 32 states (Coccimiglio 1999). Casinos enjoy a high level of acceptance by the American public with 62% of the adult population viewing casino entertainment as "acceptable for anyone" and another 30% viewing it as "acceptable for others," but not themselves. Eighty-one percent (81%) of the adult population agree that "casino gaming can be a fun night out" (Harrah's 1997). Indeed, when casino gaming is viewed from an economic standpoint "as just another industry," its recent expansion in the United States is understood properly as part of the growth in leisure, amusement, and entertainment services generally.

Viewed from this perspective, the popularity of casino entertainment has been climbing over the last decade. The number of households visiting a casino in the past year climbed from 17% in 1990 to 32% in 1996. The number of visits to casinos increased from 46 million in 1990 to 176 million in 1996. Nearly 82% of the increase in visitations occurred in non-traditional venues. The average patron visits a casino approximately 4.8 times per year or about once every two to three months (Harrah's 1997).

In Massachusetts, a 1996 telephone survey conducted by the Gaming Strategy Group found that during the past six months 22% of Massachusetts' adult residents had gambled *at a casino* despite the distance to the nearest facility in Ledyard, Connecticut (GSG 1996a, 2). The GSG survey found that "an even larger number are interested in

¹ Michigan passed legislation in 1996 that authorizes a land-based casino in Detroit, but no facility is operating at this time.

casino games and indicated they would be likely to visit one in a convenient location" (GSG 1996b, 4). Massachusetts' voter support for casino gambling has also increased from 37% of the state's registered voters in 1994 to 50% in 1999. Massachusetts voters consider Salisbury Beach (33%) and the Fall River/New Bedford (27%) area as the best locations for casinos, while Boston (52%) is viewed as the worst location for a casino (Ryan 1999).

Currently, the principal casino attractions in New England, particularly for Massachusetts' residents, are the Foxwoods Resort and Mohegan Sun casinos. These Class III Native American casinos, authorized by compacts with the State of Connecticut, are the first and third largest casinos in the United States, respectively. Foxwoods had total estimated gross gaming revenues of \$1.1 billion in 1998 (ERA 1999; Barrow et al. 1999a; WEFA Group 1997), which contributed \$165 million to Connecticut's General Fund (Connecticut Division of Special Revenue 1999a, 1999b).² The Mohegan Sun Casino had total estimated gross gaming revenues of \$560 million in 1998 (ERA 1999; Barrow et al. 1999), which contributed \$91 million to the State of Connecticut's General Fund (Connecticut Division of Special Revenue 1999c, 1999b).

In October of 1995, the Center for Policy Analysis conducted a patron origin analysis of Foxwoods Resort Casino, which estimated that Massachusetts residents comprised 33% of the casino's patrons and were spending \$330 million per year at the facility.³ This number was questioned as "too high" (Bosley 1997), but a subsequent and independent analysis by the Gaming Strategy Group in June of 1996 estimated that Massachusetts residents were "spending about \$369 million on casinos in other (nearby) states each year." (GSG 1996a, 3).⁴

The GSG report cites the Center for Policy Analysis study favorably and builds on that study to determine "that Massachusetts residents also constitute a significant portion of Atlantic City visitation, and occasionally visit (and spend money in) casinos elsewhere, including Nevada, the Caribbean, and on cruise ships" (GSG 1996b, 3-4). In fact, Boston is the eleventh largest feeder market to non-Native American casinos in the United States, while the Springfield-Holyoke area generates more than 500,000 annual visits to non-Native American casinos each year (Harrah's 1997).

² In 1995, Mickey Brown, president and CEO of Foxwoods, reported that the casino's revenues were "more than \$950 million," but declined to specify the exact figure (*Boston Globe*, October 21, 1995, 41).

³ This estimate was reported incorrectly as \$500 million in the *Report on Gaming Proposals, 1997* (1997, 14).

⁴ The methodology of using disciplined license plate counts to estimate patron origins is well established in the travel and tourism industry. Foxwoods Resort uses license plate samples to estimate patron origins, which is accepted by the Connecticut Division of Special Revenue and other private consultants (WEFA 1997, 2-20). An Oregon economist employed the same methodology to estimate patron origins at Native American casinos in Oregon, which the Oregon State Lottery accepts as reliable (Whelan 1996). The methodology is described in detail in Barrow et al (1995).

The Center for Policy Analysis recently conducted a follow-up study to its 1995 patron origin analysis and found that 36% of Foxwoods' patrons originate in Massachusetts. It is estimated that Massachusetts' residents now spend approximately \$468 million at Foxwoods Resort, including gaming, lodging, and resort amenities. The same study found that Massachusetts residents comprise 23% of Mohegan Sun's visitors and spend an estimated \$151 million at that facility (Barrow et al. 1999a).⁵ In a related patron origin study, the Center for Policy Analysis found that more than 50% of the visitors to the three race tracks on New Hampshire's southern border also come from Massachusetts (Barrow et al 1999). It is estimated that Massachusetts' residents spend approximately \$106 million per year at the Rockingham, Seabrook, and Hinsdale facilities.

Thus, it is certain that Massachusetts' residents spend at least \$726 million annually on gambling activities in Connecticut and New Hampshire alone. An unknown amount is wagered each year by Massachusetts residents on the 1,200 video lottery terminals (VLTs) at Rhode Island's Lincoln Park and the 432 VLT's at Newport's Jai Alai facility. Furthermore, these figures do not include the amounts wagered or spent each year by Massachusetts' residents in Las Vegas, Atlantic City, and other gaming venues such as Internet casinos and the Gloucester casino cruise boat.

The existing and potential outflow of additional gaming revenues from Massachusetts to other states has certainly renewed interest in casino gaming legislation. Since markets increase supply in response to consumer demand, one of the most revealing indicators of the New England gaming market's untapped potential is the range of plans and proposals for expanding gaming activity in the region. Mohegan Sun recently announced a \$950 million expansion that includes 150,000 square feet of additional gaming space, a 1,500 to 2,200 room luxury hotel, 292,000 square feet of retail space, and a 10,000 seat convention and entertainment facility (Carey 1999). Investor confidence in the proposed expansion is so high that Mohegan Sun recently had \$3.5 billion in bids on a \$500 million bond offering (Groark 1999).

The New Hampshire State Legislature is also considering the installation of 3,750 video gaming devices at New Hampshire's racetracks (Cannon 1998; Graham 1999). If each of the three southern New Hampshire racetracks was to receive 1,000 machines, and the revenue-per-day from each machine was to reach \$280, New Hampshire's yearly slot revenues could exceed \$306 million. If one assumes that Massachusetts will continue supplying at least 50% of the patrons at southern New Hampshire's three racetracks, it is estimated that Massachusetts' residents could spend over \$153 million annually at southern New Hampshire's three racetracks, pending the outcome of that state's legislative deliberations.⁶

⁵ Deller et al (1996, 38) confirm that patron origin analyses conducted in the Fall and Winter months, such as the one by the Center for Policy Analysis, "probably underestimated the amount of employment and income supported by non-local patrons," because non-local visitations increase during the summer and extend for longer periods of time.

⁶ The \$280 revenue-per-slot per day figure is a conservative estimate, since it is well below the amounts enjoyed by other racing facilities with slot machines. In January 1999, the average

The State of Rhode Island is also considering a Native American gaming compact with the Narragansett tribe, which would authorize a land-based casino in Warwick, Rhode Island. In addition, Rhode Island's Lincoln Park, which generated \$400 million on 1,200 video lottery terminals in 1998, is seeking authorization to add 300 to 500 VLTs. Lincoln Park's VLT revenue has grown by double-digits every year since they were first installed in 1992 (Burke 1999).

1.20 DESCRIPTION OF CASINOS PROPOSED FOR MASSACHUSETTS

The Center for Policy Analysis conducted its analysis of the potential economic and fiscal impacts of three casinos in Massachusetts using a "common denominator" facility. The common denominator casino and entertainment complex was derived as an average of current proposals put forward in Salisbury and Palmer and on previous proposals advanced in New Bedford and Fall River. The analysis assumes the construction of a \$300 million casino resort complex in Salisbury Beach, Palmer or Holyoke, and New Bedford or Fall River.

The three facilities would each include 85,000 to 95,000 square feet of gaming space with 3,000 slot machines and 120 tables, a 1,000 room hotel with enclosed health club and swimming pool, a 40,000 square foot conference center, a 2,000 seat theater showroom, and 50,000 square feet of retail space (see Table 1). Each facility would include multiple food and beverage areas sufficient to accommodate up to 1,520 persons. The three facilities would each offer a major non-gaming attraction unique to each site and provide 5,000 parking spaces with a combination of garage and surface parking areas.

While a "common denominator" facility was used for purposes of analysis, when constructed each facility would be custom designed to meet the specific requirements of the each individual market.

win-per-slot at Foxwoods was \$305 per day and at Mohegan Sun it was \$354 per day. Prairie Meadows, a thoroughbred race track located in suburban Des Moines, Iowa, and with 1,162 slot machines, has an average win per slot of \$296 per day. Delaware's three race tracks, with a combined total of 2,905 slot machines, posted an average win-per-slot of \$369 per day in January 1999.

TABLE 1. CASINO RESORT & ENTERTAINMENT COMPLEX

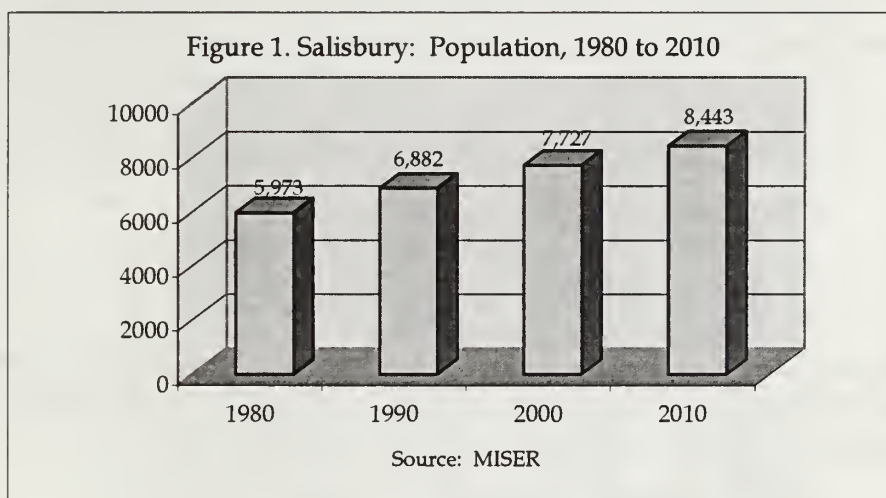
ITEM	DESCRIPTION	CAPACITY
Hotel	w/Health Club and Indoor Pool	1,000 Rooms
Casino	3,000 Slots, 120 Tables	90,000 Sq. Ft.
Food Service	Buffet Restaurant	500 Seat
	Gourmet Restaurant	120 Seat
	Coffee Shop	250 Seat
	Themed Restaurant	200 Seat
	Food Court	200 Seat
Beverage	Cabaret Cocktail Lounge	250 Seat
	Multiple Themed Bars	
Entertainment	Theater Showroom	2,000 Seat
Meeting Space	Conference Center	40,000 Sq. Ft.
Attraction	Non-gaming unique to site	
Retail		50,000 Sq. Ft.
Parking	Garage and surface	5,000 spaces
Cost to Build		\$300 million

2.00 DESCRIPTION OF PROPOSED HOST COMMUNITIES

The Massachusetts Casino Control Act would authorize the licensed operation of three casinos in the Town of Salisbury, Hampden County, and Bristol County. The proposed facilities, if authorized, will most likely be located at Salisbury Beach, the Town of Palmer or the City of Holyoke (Hampden County), and the City of Fall River or New Bedford (Bristol County). These locations are consistent with citizen preferences as indicated by a recent public opinion survey published by the *Boston Herald* (2-14-99), which indicates that registered voters consider Salisbury Beach (33%) and the Fall River/New Bedford (27%) area as the best locations for casinos.

2.10 SALISBURY

The Town of Salisbury is located in Northeastern Massachusetts and is bordered by Amesbury on the west, Seabrook, New Hampshire on the north, the Atlantic Ocean on the east, and Newburyport on the south. Salisbury is 42 miles north of Boston; 20 miles south of Portsmouth, New Hampshire; 70 miles south of Portland, Maine; and 260 miles from New York City. The town's population is 6,882 (1990 Census), although it is expected to reach 8,400 residents by 2010.

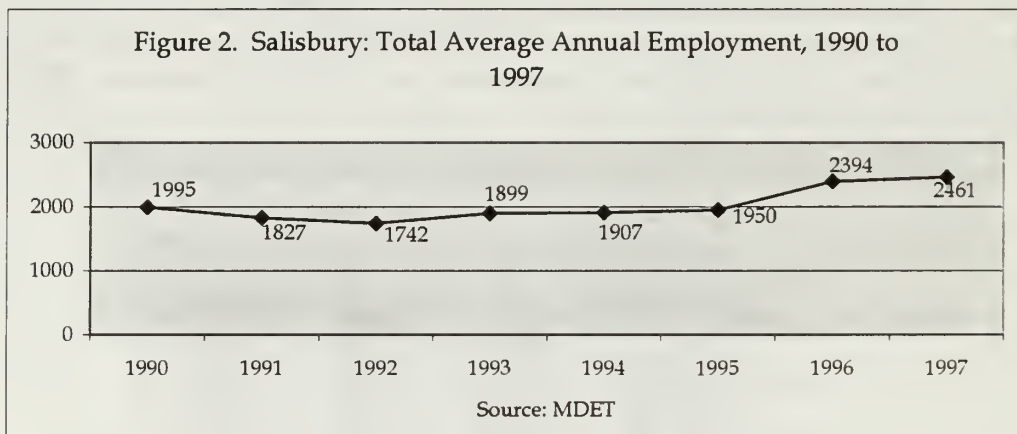


Salisbury is sixteen square miles in area and includes farms, beach, marshlands, residential development, and commercial space. Salisbury Beach State Reservation is the Commonwealth's busiest, with over 200,000 visitors annually to the four-mile beach and campground, near the proposed casino site. The town's points of interest include the beach amusement area, a wildlife reservation for seal and bird watching, and the Rings Island historic fishing village.

The principal highways in Salisbury are U.S. Route 1, State Routes 1A and 110, with major access from Boston and Middlesex County provided by Interstate Highways 95 and 495, respectively. There is no freight or passenger rail service in Salisbury and the town is not affiliated with any regional transit authority. The Newburyport-Plum Island Airport, a privately owned public-use facility, is easily accessible from Salisbury. The airport has a 2,520' x 50' asphalt runway.

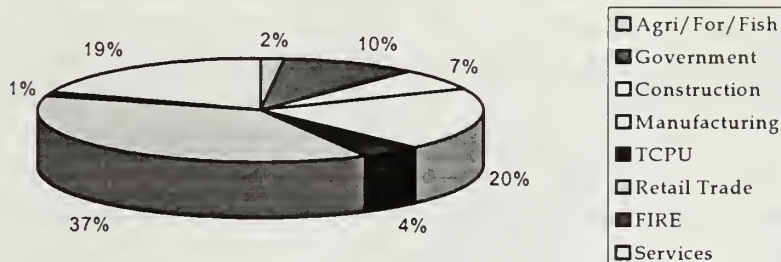
The median household income in Salisbury is \$35,679, which is 96.6% of Massachusetts' median household income of \$36,952. The per capita income in Salisbury is \$14,455, which is 83.9% of the state's \$17,224 per capita income. Over three-quarters (75.8%) of Salisbury's residents have a high school diploma compared to 80% statewide. In comparison to the 27.2% of state residents with a bachelor's degree or higher, only 10.4% of Salisbury's residents have a bachelor's degree or higher (U.S. Census 1990).

Salisbury had 1997 total annual employment of 2,461, which is 23% above the town's 1990 total annual employment of 1,995.



The town's largest employment sectors are retail trade (37%), manufacturing (20%), and services (19%). The current unemployment rate in Salisbury is 4.9% (February 1999) compared to 3.5% for Essex County, and 3.3% for the state.

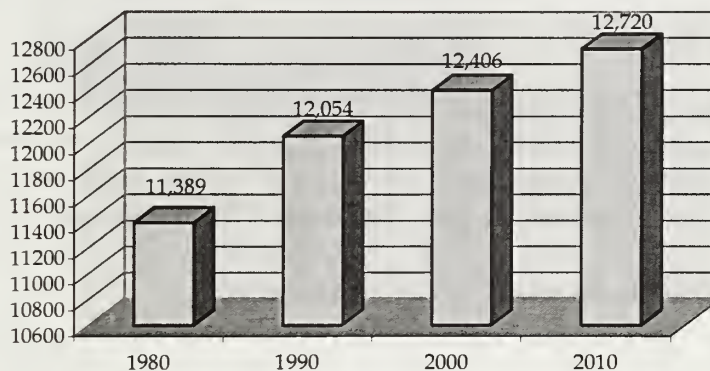
Figure 3. Salisbury: Employment by Sector, 1997



2.20 PALMER

The Town of Palmer is located in south central Massachusetts in Hampden County. Palmer is bordered by Monson on the south, Wilbraham and Ludlow on the west, Belchertown and Ware on the north, and Warren and Brimfield on the east. Palmer is 15 miles east of Springfield, 36 miles west of Worcester, 73 miles west of Boston, and 153 miles from New York City. The population of Palmer is 12,054 (1990) and it is expected to reach 12,720 by 2010.

Figure 4. Palmer: Population, 1980 to 2010



Source: MISER

Palmer is 32.03 square miles in area and is organized in four separate and distinct villages: Depot Village, Thorndike Village, Three Rivers, and Bondsville. There are four separate water districts, three separate fire departments and four separate village centers. In addition, there are several agricultural areas. Depot Village has been the main

commercial and business center for 125 years. Bondsville is the site of much of the town's industry, beginning in the 18th century when the first saw and grist mills were established in the village.

The principal highways in Palmer are the Massachusetts Turnpike (Interstate Highway 90) and U.S. Route 20, which run east-west across the state, and State Route 32 which runs north and south. A Massachusetts Turnpike interchange is located in Palmer. Palmer is an important node in the state's inter-modal transportation network that combines the advantages of long haul rail transportation with door-to-door delivery by highway. The Central Vermont Railway, Conrail, and the Massachusetts Central Railroad all serve the New England Intermodal Terminal and interchange cars at Palmer. Thirty-six miles east in the Worcester area, there are three major cross-state highways: the Worcester Turnpike (Route 9), Route 20, and the Massachusetts Turnpike. I-495 borders to the east, I-190 links to the Fitchburg-Leominster area, I-84 and I-395 connect to Connecticut and points south. The region is well connected by rail and highway to seaports, airports, and other inter-modal transportation facilities in Boston and Providence.

Palmer is not affiliated with a regional transit authority. Peter Pan Bus Lines provides service to Palmer on its main route between Springfield, Worcester, and Boston. Metropolitan Airport, a General Aviation (GA) facility located 4 miles north of Palmer, has a 2,475' x 55' asphalt runway.

The median household income in Palmer is \$31,159, which is 84.3% of the statewide average. Per capita income is \$14,648, which is 85.0% of Massachusetts' median household income of \$36,952. The per capita income in Palmer is \$14,648, which is 85.0% of the state's \$17,224 per capita income. Slightly less than three-quarters (73.5%) of Palmer's residents have a high school diploma, and only 12.0% have a bachelor's degree or higher (U.S. Census 1990).

Palmer had 1997 total annual employment of 5,856, which is 14% below the town's 1990 total annual employment of 6,797. Palmer's largest employment sectors are manufacturing (26%), government (26%), and retail trade (21%). The current unemployment rate in Palmer is 5.0% (February 1999) compared to 4.3% for Hampden County, and 3.3% for the state. Among adjacent communities, the unemployment rate is 5.2% in Warren, 5.4% in Brimfield, and 6.3% in Ludlow.

Figure 5. Palmer: Total Average Annual Employment, 1990 to 1997

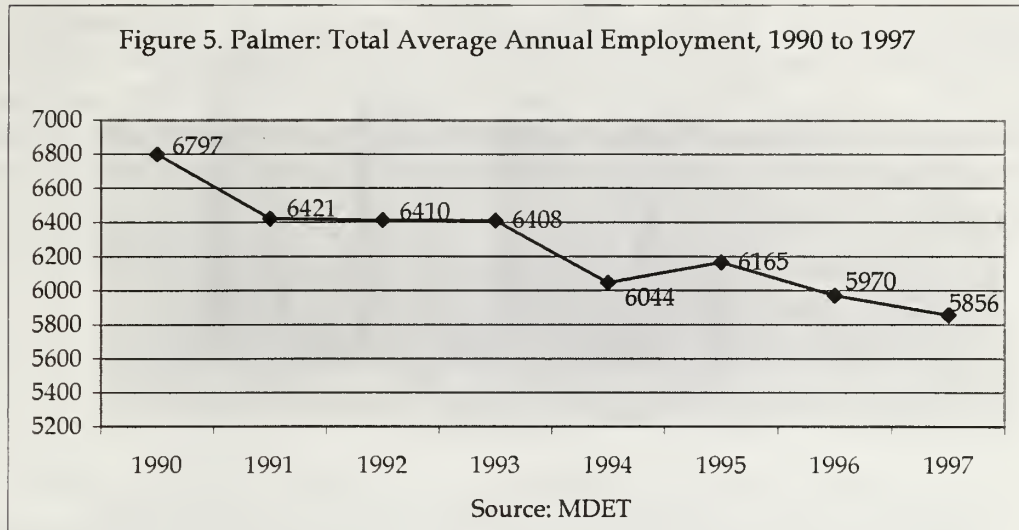
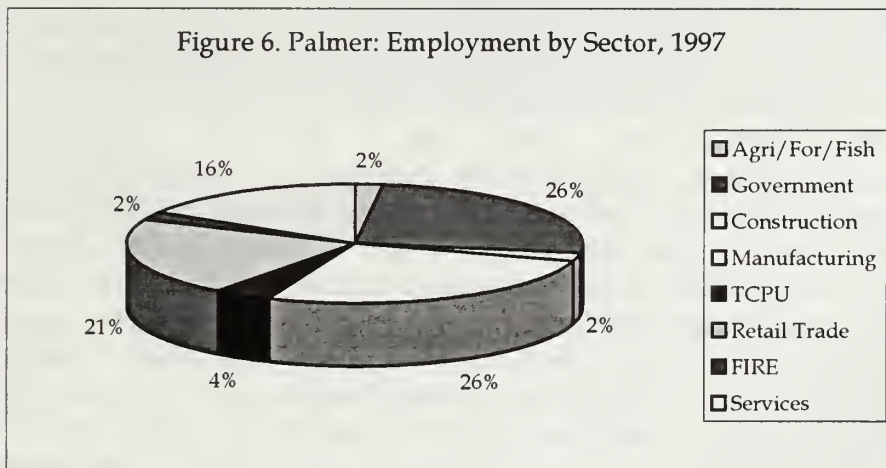
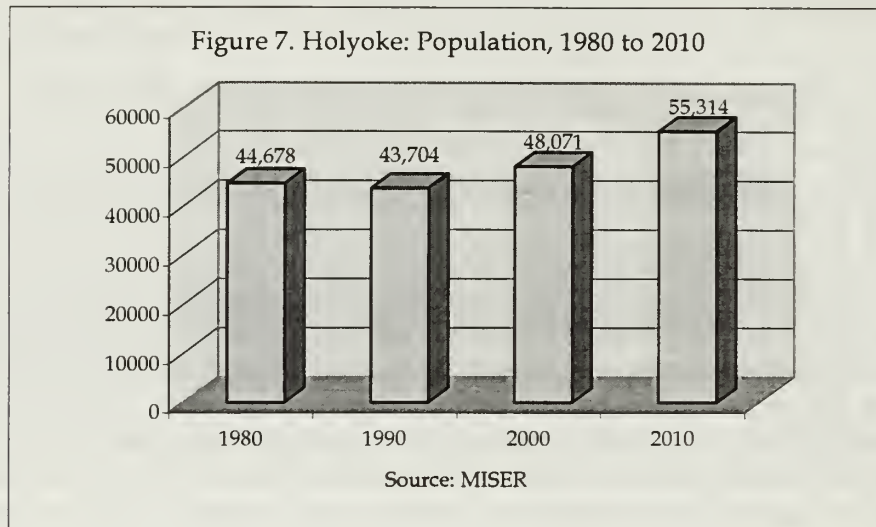


Figure 6. Palmer: Employment by Sector, 1997



2.30 HOLYOKE

The City of Holyoke is located in western Massachusetts in the Connecticut River Valley. The City is bordered by West Springfield on the south, Westfield, Southampton, and Easthampton on the west, and on the east it is separated from South Hadley and Chicopee by the Connecticut River. Holyoke is 90 miles west of Boston, 34 miles north of Hartford, Connecticut, and 142 miles from New York City. The city has a population of 43,704 and it is expected to reach a population of 55,314 by 2010.



Holyoke is 22.82 square miles in area. The City is adjacent to the Connecticut River where the first of several dams was constructed in 1848 to take advantage of a 57-foot drop in the river's level. The water-power created by the dam was transferred to new industrial sites along 7.5 miles of hand dug canals. At one point, more than 25 paper mills operated in Holyoke to produce the greatest tonnage of paper of any city in the world. Although only one company still manufactures paper in the city, the dam, canals, and much of the industrial and commercial architecture remain intact.

Holyoke is often described as the crossroads of New England, because of its strategic position along the Connecticut River and its excellent transportation facilities. The Massachusetts Turnpike connects the region to Boston and to Albany, New York. Interstate 91 provides direct access to Hartford, Connecticut, and to Brattleboro, Vermont, as well as to other points north in Vermont. U.S. Route 5 also runs north and south. Amtrak passenger rail service is available from nearby Springfield. The Pioneer Valley Railroad (PVRR) and the Springfield Terminal Railway (STRR) provide freight service and interchange traffic in Holyoke. The PVRR operates a warehouse and distribution facility in the city. Holyoke is also a member of the Pioneer Valley Transit Authority (PVTA), which provides fixed route service within Holyoke as well as to Chicopee, Springfield, South Hadley, and other neighboring towns. Peter Pan Bus Lines provides commuter service to Boston via Springfield. Barnes Municipal Airport, a General Aviation (GA) facility in neighboring Westfield, is easily accessible with a 5,000' x 100' asphalt runway.

The median household income in Holyoke is \$22,858, which is 61.9% of Massachusetts' median household income of \$36,952. Holyoke's per capita income is \$11,088 compared to state per capita income of \$17,224. Two-thirds (67%) of Holyoke's residents have a high school diploma, compared to 80% statewide. Only 13.9% of the

city's residents have earned a bachelor's degree or higher compared to 27.2% statewide (U.S. Census 1990).

Holyoke had 1997 total annual employment of 22,694, which is 5.3% below the town's 1990 total annual employment of 23,954. Holyoke's largest employment sectors are services (29%), retail trade (28%), and manufacturing (19%). The current unemployment rate in Holyoke is 5.5% (February 1999) compared to 4.3% for Hampden County, and 3.3% for the state. Among adjacent communities, the unemployment rate is 3.4% in Westfield, 3.5% in West Springfield, 3.6% in Southampton, 3.9% in Chicopee, and 5.3% in Springfield.

Figure 8. Holyoke: Total Average Annual Employment, 1990 to 1997

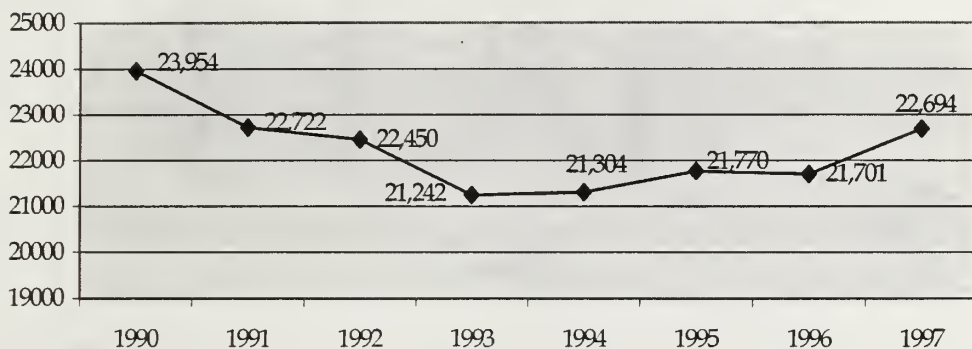
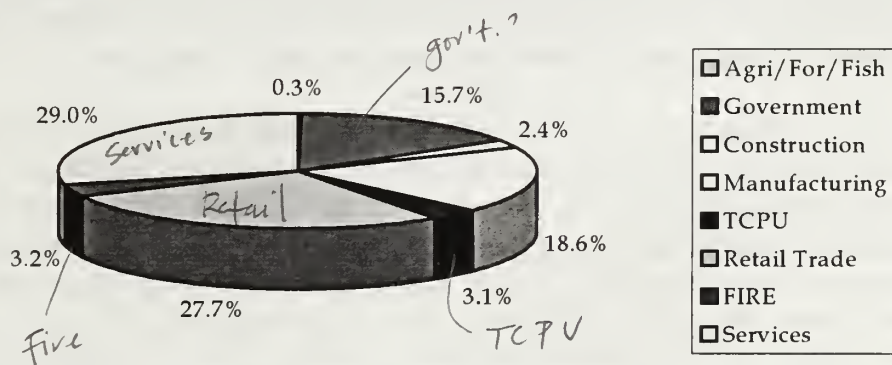
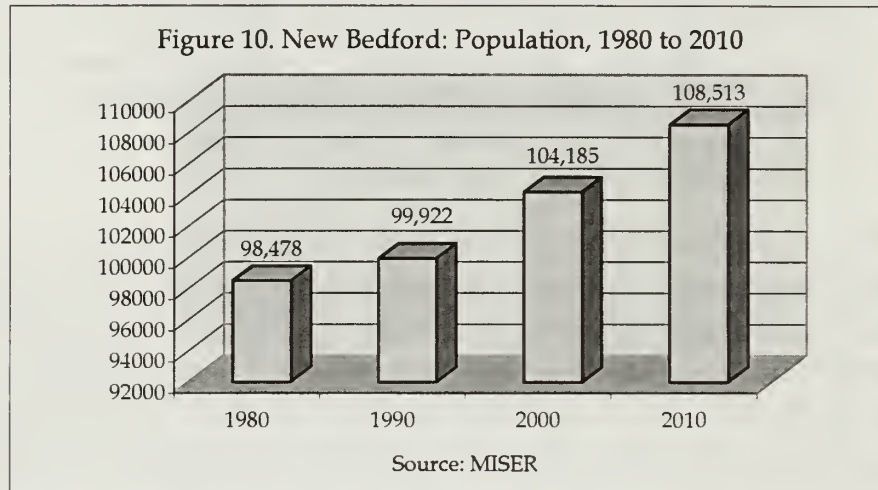


Figure 9. Holyoke: Employment by Sector, 1997



2.40 NEW BEDFORD

The City of New Bedford is located in Southeastern Massachusetts. The city is bordered by Dartmouth on the west, Freetown on the north, Acushnet on the east, and Buzzards Bay on the south. New Bedford is 54 miles south of Boston, 33 miles southeast of Providence, Rhode Island, and 208 miles from New York City. The population of the City is 99,922 (1990), although it is expected to increase to 108,513 by 2010.



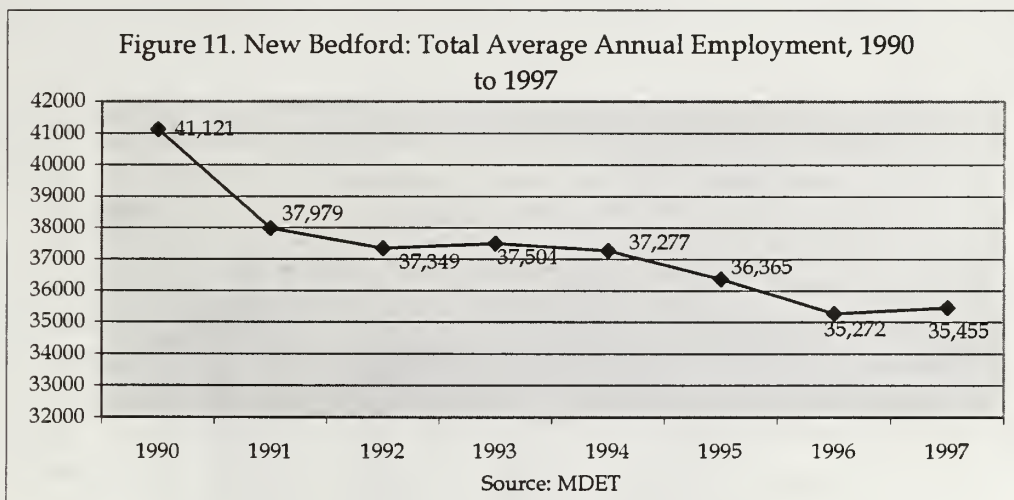
New Bedford is 24.04 square miles in area and, until the mid-nineteenth century, was the whaling capital of the world. Following the decline of the whaling industry, the city evolved into a manufacturing center, particularly for the textiles and apparel industry, which remain important to the city's industrial future. The city prides itself on its working waterfront and whaling historic district. The City is consistently among the world's top five fishing ports in terms of the annual value of its catch. New Bedford also has several sites of interest that make it a potential destination resort, such as the Whaling Museum, National Historic Park, ferry service and air service to Martha's Vineyard and Nantucket, the Dartmouth Children's Museum, and an Art Museum.

The principal highways in New Bedford are State Route 140 which runs north and south, Interstate 195 which runs east and west, and U.S. Route 6 which also runs east and west. New Bedford is served by the New Bedford Regional Airport, which occupies 425 acres at the intersection of Route 140 and Interstate 195. The airport includes two major runways, each approximately 5,000 feet in length that are sufficient for general aviation and light commuter traffic. The main runway is equipped with an Approach Light System for night landings and an Instrument Landing System for bad weather and poor visibility landings. New Bedford Regional Airport has an Air Traffic Control Tower, making it the only towered ILS civilian airport in the Southeast region.

New Bedford Regional Airport currently services general aviation traffic, commuter passenger traffic to Martha's Vineyard and Nantucket Island, and limited air freight traffic. In 1997, there were 20,104 scheduled passenger enplanements at New Bedford Regional Airport, an increase of 37.7 percent from 1992. The airport is planning a \$30 million expansion, including an extension of the main runway to 8,000 feet that will accommodate larger jet aircraft. Bonanza Bus Lines offers commuter service to Boston, Providence, and Cape Cod, and long distance travel to New York City.

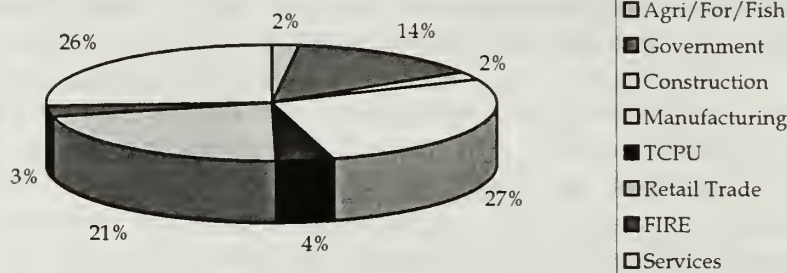
Despite its rich heritage and proud past, New Bedford is now one of the poorest communities in Massachusetts. The median household income in New Bedford is \$22,647, which is only 61% of the state median household income of \$36,952. Per capita income is \$10,923, which is 63.4% of the state's per capita income of \$17,224. The educational levels of New Bedford residents is also low, with only 51.7% of the city's residents having a high school diploma compared to 80% statewide. Only 9.1% of New Bedford's residents have a bachelor's degree or higher compared to 27.2% statewide (U.S. Census 1990).

New Bedford had 1997 total annual employment of 35,455, which is 14% below the city's 1990 total annual employment of 41,121.



New Bedford's largest employment sectors are manufacturing (27%), services (26%), and retail trade (21%). The current unemployment rate in New Bedford is 8.7% (February 1999) compared to 5.4% for Bristol County, and 3.3% for the state. Among adjacent communities, the unemployment rate is 5.1% in Dartmouth, 5.0% in Fairhaven, and 5.0% in Acushnet.

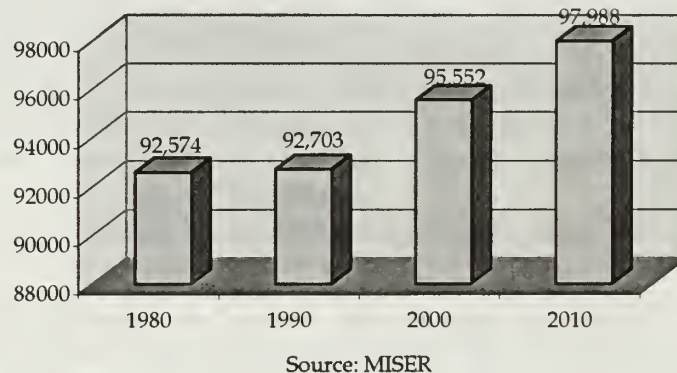
Figure 12. New Bedford: Employment by Sector, 1997



2.50 FALL RIVER

The City of Fall River is an industrial community in Bristol County. The City is bordered by Somerset on the northwest, Freetown on the north and northeast, Dartmouth on the southwest, Westport on the south, Tiverton, Rhode Island on the southwest, and Mount Hope Bay and the mouth of the Taunton River on the west. Fall River is 50 miles south of Boston. Fall River has a population of 92,703 (US. Census 1990) and it is expected reach a population of 97,988 by 2010.

Figure 13. Fall River: Population, 1980 to 2010



Fall River is 38.22 square miles in area with a geography that has largely determined its past economic development. Fall River had both water-power and a deep water port, which made it both a transfer point for passenger and freight traffic to New York and the site of intense industrial development in nineteenth and early twentieth

centuries. A population and industrial boom made Fall River one of the textile capitals of the nation in the early 1900's, with more than 100 cotton mills housing four million spindles and employing more than 30,000 people. Fall River's textile cluster was a tightly woven industrial complex in which raw materials were shipped through Fall River's port for processing into manufactured goods and then shipped out to national and international markets. The City's diverse residential population is made up of immigrants from all over the world, which were drawn to the mill jobs available in the city. Although the city's economy has diversified over the last twenty years, approximately one-third of the city's jobs are still directly or indirectly dependent on the textile industry and other water-intensive manufacturing establishments remain important parts of the city's industrial base.

The principal highways serving Fall River area are Route 24 which runs north-south, Route 79 which runs north-south, Interstate Highway 195 which runs east-west, and U.S. Route 6 which also runs east and west. The Bay Colony Railroad and Conrail provide freight service to Fall River. Bonanza Bus Lines provides commuter service from Fall River to Boston and Providence, Rhode Island. Bonanza also offers service to New Bedford, Cape Cod, and New York City. Fall River's State Pier, located on the Taunton River, handles cargo and occasional visits from cruise ships and other vessels.

Fall River is also one of the poorest communities in Massachusetts. Median household income is \$22,452, which is 60.8% of the state's median household income of \$36,952. Per capita income is \$10,966, which is 63.7% of the state's per capita income of \$17,224. The educational attainment of Fall River residents is also low, with only 49.5% of the city's residents having a high school diploma compared to 80% statewide. Only 8.0% of Fall River's residents have a bachelor's degree or higher compared to 27.2% statewide (U.S. Census 1990).

Fall River had 1997 total annual employment of 39,115, which is 2.8% above the city's 1990 total annual employment of 38,056. Fall River's largest employment sectors are manufacturing (32%), services (29%), and retail trade (18%). The current unemployment rate in Fall River is 8.2% (February 1999) compared to 5.4% for Bristol County, and 3.3% for the state. Among adjacent communities, the unemployment rate is 5.8% in Westport, 5.3% in Freetown, and 4.4% in Somerset.

Figure 14. Fall River: Total Average Annual Employment, 1990 to 1997

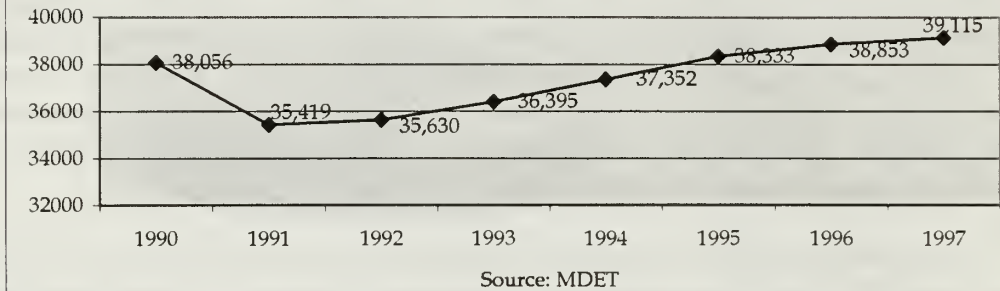
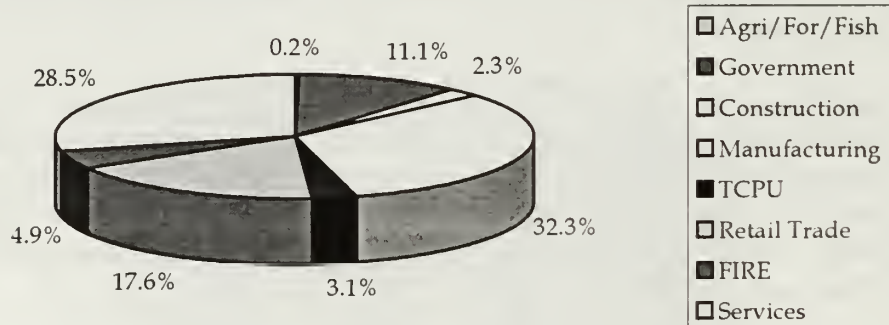


Figure 15. Fall River: Employment by Sector, 1997



3.00 ECONOMIC IMPACTS OF THREE CASINO RESORTS

3.10 DEFINITIONS

Economic impacts measure the importance of an economic activity, such as a casino gaming and entertainment complex, primarily in terms of the employment and payroll generated by that activity. Economic impacts consist of direct impacts, indirect impacts, and induced impacts. *Direct impacts* are the economic activities carried out at a casino gaming and entertainment complex, such as gaming, hotel lodging, food and beverage services, and retail sales. Thus, direct impacts are an immediate consequence of casino-related economic activity that would not have occurred in the absence of the casino gaming facility.

Indirect impacts derive primarily from off-site economic activities that are attributable to the casino gaming and entertainment complex. These economic activities occur mainly as a result of *non-payroll local expenditures* by the casino facility. Local expenditures include a range of operating expenses such as food and beverage purchases, office supplies, telephone services, furniture, courier and delivery services, landscaping, and so forth. Indirect impacts differ from direct impacts insofar as they originate entirely off-site, although the indirect impacts would not have occurred in the absence of a casino gaming and entertainment complex. *Induced impacts* are the multiplier effects of the direct and indirect impacts created by successive rounds of spending.⁷ *Total impacts* are the sum of the direct, indirect, and induced impacts.

3.20 METHODOLOGY: THE IMPLAN MODELING SYSTEM

The economic impacts of the proposed casino resorts were estimated using IMPLAN (IMPact Analysis for PLANing), which is an econometric modeling system developed by applied economists at the University of Minnesota and the U.S. Forest Service. The IMPLAN modeling system has been in use since 1979 and is currently used by over 500 private consulting firms, university research centers, and government agencies. The IMPLAN modeling system uses input-output analysis to construct quantitative models of trade flow relationships between businesses and between businesses and final consumers. From this data, one can examine the effects of a change in one or several economic activities to predict its effect on a specific state, regional, or local economy (impact analysis).

⁷ Most of the take home-home income earned by casino employees is spent locally. Some of this spending becomes income to local individuals who provide services to casino employees. Some the spending by casino employees goes to local businesses and becomes income to the business owners and their employees. Subsequently, part of these second-round incomes are also spent locally and thus become income to another set of individuals. As successive rounds of spending occur, additional income is created in the local area, region, and state.

The IMPLAN input-output accounts capture all monetary market transactions for consumption in a given time period. The IMPLAN input-output accounts are based on industry survey data collected periodically by the U.S. Bureau of Economic Analysis and follow a balanced account format recommended by the United Nations. IMPLAN also includes social accounting data (e.g., personal income and gross state product) that makes it possible to measure non-industrial transactions such as the payment of indirect taxes by businesses and households. The IMPLAN data base provides data coverage for the entire United States by county and has the ability to incorporate user-supplied data at each stage of the model building process to insure that estimates of economic impacts are both up-to-date and specific to an economic target area.⁸ IMPLAN can construct local input-output models in units as small as five-zip code clusters.

IMPLAN's Regional Economic Accounts and the Social Accounting Matrices are used to construct local, county, or state-level multipliers specific to a target economic area. Multipliers describe the response of an economy to a change in demand or production. The multipliers allow economic impact analysis to move from a descriptive input-outputs model to a predictive model. Each industry that produces goods or services generates demand for other goods and services and this demand is multiplied through a particular economy until it dissipates through "leakage" to economies outside the specified area. Thus, multipliers calculate the response of the targeted economic area to a change in demand or production.

IMPLAN models *discern and calculate leakage* from local, regional, and state economic areas based on workforce configuration, the inputs required by specific types of businesses, and the availability of both inputs in the economic area. Consequently, *economic impacts that accrue to other regions or states as a consequence of a change in demand are not counted as impacts within the economic area.* The model accounts for substitution and displacement effects by deflating industry-specific multipliers to levels well below those recommended by the U.S. Bureau of Economic Analysis. In addition, multipliers are applied only to *personal disposable income* to obtain a more realistic estimate of the multiplier effects from increased demand. The reliability of these estimates has been proven through empirical testing (Department of Commerce 1981; Brucker et al 1990).

A predictive model is constructed by specifying a series of new expenditures in a specific economic area (e.g., new employment or construction) which is then applied to the industry multipliers for that particular region. Based on these calculations, the model estimates final demand, which includes employment, employee compensation (excluding benefits), and point-of-work personal income (including benefits). The initial IMPLAN

⁸ The IMPLAN modeling system draws on a variety of statistical sources, including the Bureau of Labor Statistics Growth Model, Bureau of the Census, ES-202 employment and earnings data, the Regional Economic Information System (REIS), and the Bureau of Economic Analysis Gross State Product data.

data details all purchases in a given area, including imported goods and services. Importantly, IMPLAN's Regional Economic Accounts exclude imports to an economic area so the calculation of economic impacts identifies only those impacts specific to the targeted economic area.

IMPLAN calculates this distinction by applying Regional Purchase Coefficients (RPC) to predict regional purchases based on an economic area's particular characteristics. The Regional Purchase Coefficient represents the proportion of goods and services that will be purchased regionally under normal circumstances, based on the area's economic characteristics described in terms of actual trade flows within the area. IMPLAN also contains a Local Purchase Coefficient (LPC) that allows one to calculate the maximum possible economic impacts on an area if all inputs that can be purchased within the area are purchased within that area. The LPC is useful for calculating the potential impact of local vendor and employment preference arrangements.

It is estimated that a Salisbury Beach casino will generate \$379.9 million in gross gaming revenues (GGR) annually, a Bristol County casino will generate \$448.3 million in GGR annually, and a Hampden County casino will generate \$539.5 million in GGR annually (ERA 1999, 19). Arthur Andersen (1996) estimates that casino operations create 13 direct jobs for each \$1 million in gross gaming revenue. However, these figures include casinos in the traditional gaming venues of Nevada and New Jersey.

The Center for Policy Analysis has used a more conservative estimate that is based on employees per GGR at casinos located in non-traditional venues (Arthur W. Wright & Associates 1993; Coopers & Lybrand 1996; Whelan 1996; WEFA Group 1997). The Center estimates that the three proposed casinos would each generate 3,155 full- and part-time positions through direct employment. This estimate yields 5.8 jobs per \$1 million in GGR in Hampden County to 8.3 jobs per \$1 million in GGR at Salisbury Beach. These ratios are well below Arthur Andersen's national average, but they provide a more realistic and conservative estimate of employment, earnings, and other impacts.⁹

The casino gaming industry derives its revenues from gaming, hotel rooms, food and beverage services, retail merchandise sales, entertainment, and other attractions. The average full-service casino employs about 32% of its workforce in gaming operations with the remainder employed in hotel (14%), food and beverage services (31%), general administration (16%), and other (7%) areas such as security (Arthur Andersen 1996, 33). The estimated 3,155 employees at a common denominator casino resort have been allocated among these different categories, with some adjustments for size and non-traditional venue, to insure that estimates of economic and fiscal impact approximate the

⁹ The difference in employment per GGR among the three facilities is because a minimum number of employees is required to staff each facility, but once operating economies of scale make it possible to generate additional revenues off this employment base.

actual operation of a casino resort as closely as possible (Coopers & Lybrand 1997, 11; see Table 2).

Table 2. Casino Resort: Staffing

Sector	Number	Percent
Food & Beverage	625	20%
Retail/Entertainment	400	13%
Hotel	600	19%
Marketing & Adm	155	5%
Facilities	180	6%
Security	145	5%
Casino Operations	1,000	32%
Accounting	50	2%
TOTAL	3,155	100%

The occupational matrix of a casino resort is distributed among a wide variety of occupations requiring many different types and levels of skills. The casino operation requires dealers, changers, beverage servers, accounting and cage personnel, floor managers, repair and maintenance technicians, sound and lighting technicians, and security personnel. However, a casino resort employs people in many areas other than its direct gaming operations. The hotel operations require valets, housekeepers, bellmen, front-desk personnel, telephone operators, cashiers, and bookkeepers. The food and beverage services require waiters and waitresses, chefs and cooks, dishwashers, hosts and hostesses, maintenance personnel, and managers. The general administrative services require computer systems analysts, accountants, financial analysts, and other professional managers (Coopers & Lybrand 1997, 11).

Based on these assumptions, the Center for Policy Analysis has estimated the economic impacts of the three facilities separately for the *construction phase* and the *operations phase* of each facility. Employment is defined as total wage and salary employees and self employed jobs in a region. It includes both full-time and part-time workers. The data sets used to calculate total employment are the ES202 data, County Business Patterns, and the Regional Economic Information System. Personal income is wages, benefits, and other income derived from employment linked geographically to the workplace site. However, personal income *does not* include tip income, which can equal up to three times the wages of dealers, waiters, and waitresses, among others.

3.30 CONSTRUCTION PHASE

The construction phase economic impacts estimates assume that a \$300 million casino and entertainment complex will be constructed in Salisbury Beach, Hampden County, and Bristol County. The \$300 million construction cost includes labor and materials, landscaping, road and infrastructure improvements, gaming equipment, and

furnishings. The IMPLAN modeling system can use final demand to generate direct employment and personal income estimates from the U.S. Bureau of Economic Analysis benchmark input-output accounts. However, since final demand was used to generate an estimate of direct economic impacts, final demand was discounted from the \$300 million construction cost to \$269,606,000 to exclude the purchase of gaming equipment (e.g., slot machines) that are not produced within the state. The exclusion of gaming equipment purchases from final demand yields a more realistic estimate of regional economic impacts during the construction phase (Coopers & Lybrand 1996).

The model predicts that the construction phase of a \$300 million casino development in Salisbury would generate 2,055 direct construction jobs and \$75.9 million in direct personal income in Essex County; a casino development in Palmer or Holyoke would generate 2,091 direct construction jobs and \$74.1 million in direct personal income in Hampden County; and a casino development in Fall River or New Bedford would generate 2,115 direct construction jobs and \$73 million in direct personal income in Bristol and Plymouth Counties (see Table 3 and Table 4).¹⁰

Table 3. Construction: Employment Impacts				
	Direct	Indirect	Induced	Total
Salisbury	2,055	864	1,016	3,935
Hampden County	2,091	847	1,080	4,018
Bristol/Plymouth Counties	2,115	892	917	3,923
Massachusetts	6,261	2,998	3,540	12,799
Note: Totals for indirect, induced, and total impacts exceed the sum of 3-County impacts due to local purchases and expenditures outside the three counties.				

¹⁰ The estimates for New Bedford/Fall River were calculated for Bristol County separately and for Bristol and Plymouth Counties combined in a single regional model. The results indicate that the "SouthCoast" extending from Seekonk to Wareham along I-195 is a highly integrated economic region that crosses county boundaries. It is estimated that about one-third of the regional impacts will accrue to residents and businesses located in Plymouth County communities near New Bedford and Fall River.

Table 4. Construction: Personal Income Impacts

	Direct	Indirect	Induced	Total
Salisbury	\$75,908,400	\$ 28,254,952	\$27,825,764	\$ 131,989,116
Hampden County	\$74,154,344	\$24,644,266	\$27,896,740	\$126,695,350
Bristol/Plymouth Counties	\$72,978,200	\$26,818,473	\$23,818,961	\$123,615,634
Massachusetts	\$230,999,376	\$108,066,721	\$106,036,823	\$445,102,920

Note: Totals for indirect, induced, and total impacts exceed the sum of 3-County impacts due to local purchases and expenditures outside the three counties.

The model predicts that the total economic impact of the construction phase, including indirect and induced impacts, will amount to 3,935 new jobs and \$132 million in personal income in Essex County; 4,018 jobs and \$127 million in personal income in Hampden County; and 3,923 jobs and \$124 million in personal income in Bristol and Plymouth Counties. The total statewide economic impact of constructing three casino resorts will be 12,799 jobs and \$445 million in personal income, including direct, indirect, and induced impacts (see Table 3 and Table 4). The direct, indirect, and induced impacts are in current (1998) dollars and are based on earnings and income data specific to Massachusetts.

The IMPLAN modeling system is able to specify the location of indirect and induced impacts by calculating the regional effect of construction purchases using the BEA's input-output accounts and by calculating the effect of increased consumer demand (employment) from gross state product data. The model predicts that the most significant indirect and induced impacts of the construction phase statewide will be in business and professional services (1,348 jobs), health services (585 jobs), miscellaneous retail (447 jobs), eating and drinking establishments, (393 jobs), wholesale trade (357 job), food stores (351 jobs), personnel supply services (220 jobs), automotive dealers and service stations (167), and motor freight transport and warehousing (105 jobs).

3.40 OPERATIONS PHASE

The operations phase of a casino resort generates economic impacts that continue as long as the facility remains in existence. The IMPLAN modeling system uses U.S. Bureau of Labor Statistics earnings and income data and the U.S. Bureau of Economic Analysis Regional Economic Information System (REIS) to calculate place of work income. These estimates are based on direct employment estimates specific to the different aspects of a casino's operations and based on actual compensation rates in the particular region and locality. The model assumes that each of the three casino facilities proposed for Massachusetts will employ 3,155 persons in various facets of casino operation as

described in Section 3.20. Thus, the direct, indirect, and induced impacts have been estimated on the basis of current (1998) earnings specific to each local and regional area and on the basis of a business profile specific to a casino resort and entertainment facility. The model's predictions are derived using a Local Purchase Coefficient designed to capture the effects of local vendor and employment preferences included in the Massachusetts Casino Control Act.

3.41 Employment & Income Impacts

The model predicts that a Salisbury Beach casino resort would generate 2,935 new jobs in Essex County and \$57.4 million in local personal income with 2,776 of the new jobs accruing to persons residing in Salisbury and surrounding communities. A casino resort in Palmer or Holyoke will generate 3,059 new jobs in Hampden County and \$56.2 million in local personal income with 2,935 of the new jobs accruing to persons residing in Palmer or Holyoke and surrounding communities. A casino resort in New Bedford or Fall River will generate 3,059 new jobs in Bristol and Plymouth Counties and \$55.1 million in local personal income with 2,935 of the new jobs accruing to persons residing in New Bedford or Fall River and surrounding communities (see Table 5 and Table 6).

Table 5

Operations: Employment Impacts				
	Direct	Indirect	Induced	Total
Salisbury Beach				
Local Area	2,776	295	428	3,499
Essex County	2,935	394	598	3,927
Palmer or Holyoke				
Local Area	2,934.8	223.0	343.4	3,501.2
Hampden County	3,059.0	416.1	649.8	4,124.9
New Bedford/Fall River				
Local Area	2,934.8	351.0	479.6	3,765.4
Bristol/Plymouth County	3,058.5	422.9	542.7	4,024.1
Massachusetts	9,465.0	1,478.1	2,436.2	13,379.4

The total annual economic impact of the casinos' operations, including direct, indirect, and induced impacts, will generate 3,927 new jobs and \$91.8 million in regional personal income in Essex County residents; 4,125 new jobs generate and \$90 million in regional personal income in Hampden County; and 4,024 new jobs in Bristol and Plymouth Counties \$86.4 million in regional personal income. The total annual statewide economic impact of the casinos' operation will be 13,379 jobs and \$362 million in personal income (see Table 5 and Table 6).¹¹

¹¹ The model predicts that with local vendor employment preferences about 4.4% of the total employment generated by three casinos will "leak" into adjacent states. Without these

Table 6

Operations: Personal Income Impacts				
	Direct	Indirect	Induced	Total
Salisbury Beach				
Local Area	\$54,672,542	\$ 11,559,309	\$13,728,186	\$ 79,960,037
Essex County	\$57,411,293	\$15,034,053	\$19,352,747	\$91,798,093
Palmer or Holyoke				
Local Area	\$57,411,301	\$8,943,783	\$10,915,596	\$77,270,679
Hampden County	\$56,202,202	\$13,988,259	\$19,818,952	\$90,099,412
New Bedford/Fall River				
Local Area	\$57,411,298	\$12,970,056	\$15,239,944	\$85,621,298
Bristol/Plymouth County	\$55,068,939	\$14,699,269	\$16,651,920	\$86,420,129
Massachusetts	\$213,511,275	\$62,033,189	\$86,171,569	\$361,716,034

The IMPLAN modeling system is able to specify the location of indirect and induced impacts by calculating the regional effect of casino purchases using the BEA's input-output accounts and by calculating the effect of increased consumer demand (employment) from gross state product data. The model predicts that the most significant indirect and induced impacts of the operations phase statewide will be in health services (403 jobs), business and professional services (369 jobs), eating and drinking establishments (393 jobs), personnel supply services (192 jobs), miscellaneous retail (180 jobs), wholesale trade (144 job), food stores (141 jobs).

The significant indirect and induced impacts of casino operations in health services is because casinos provide new or improved health care benefits to a large percentage of employees (see Section 3.43). The fact that casinos draw large numbers of non-employed individuals into the labor force – welfare recipients, the unemployed, retirees, and first time job seekers -- is partly what accounts for the substantial indirect and induced impacts in eating and drinking establishments, food stores, and miscellaneous retail stores (see Section 3.42). Other indirect and induced impacts are mainly the result of local and regional purchases related to casino operations.

3.42 Impact on Unemployment Rates

The proposed casinos' impact on unemployment rates in Essex, Hampden, and Bristol County was estimated using the February 1999 Local Area Unemployment Statistics (LAUS) labor force and unemployment data. In estimating the impact on regional unemployment rates, the size of the active labor force was adjusted upwards to account for new labor market participation by persons previously not included in the labor force. New additions to the labor force include individuals receiving Transitional Assistance to Needy Families (10.2%), retirees, and homemakers (15%).

preferences, the model predicts that approximately 28% of the total employment generated by three casinos will leak into adjacent states.

labor force. New additions to the labor force include individuals receiving Transitional Assistance to Needy Families (10.2%), retirees, and homemakers (15%).

In 1997, Coopers & Lybrand completed the first comprehensive national survey of casino employees in the United States. The firm surveyed 178,000 casino employees nationwide – 54% of the total industry employment base – to measure the direct impact of the casino industry on its employees. The Coopers & Lybrand (1997, 2, 4) casino employee survey found that 8.5% of employees report leaving welfare as a result of their employment at a casino. Approximately 15.7% of casino employees replaced unemployment insurance benefits with casino employment.

The Cooper & Lybrand survey finds that casino employment's impact in transitioning individuals from welfare is particularly notable where casino development has been targeted at less developed regions of a state. Casino developments targeted at areas with low income and high unemployment rates have resulted in 8.9% of Mississippi's casino employees leaving welfare as a result of their employment, while even higher rates of success have been achieved in Indiana (9.5%), Louisiana (11.2%), and Iowa (12.0%) (Coopers & Lybrand 1997, 14).

Other studies have applied regression analysis to time series data (1960-1987) to estimate the relationship between national employment growth and welfare rolls. The estimated coefficient derived from such analyses indicates that the addition of 1,000 new jobs in the United States reduces AFDC/TANF rolls by 154 persons (Arthur W. Wright 1993, 9-10).

Consequently, it is expected that approximately 10.2% of the total employment generated by three Massachusetts casinos will consist of individuals leaving TANF rolls. This estimate is derived by applying the Coopers and Lybrand coefficient (0.085) to the estimates of direct casino employment and by applying the national coefficient (154 per 1,000 jobs) to the estimates of non-casino job creation (i.e., indirect and induced employment impacts). The estimate that another 15% of casino employees will consist of individuals who were also not in the labor force previously (e.g., homemakers, retirees) is based on a University of Wisconsin survey of casino employees in that state (Deller et al. 1996, 14).

Thus, after the appropriate labor force adjustments, it is estimated that the total employment gains generated by a Salisbury Beach casino will reduce the current (February 1999) Essex County unemployment rate from 3.5% to 2.4%. A significant portion of this impact will accrue to Salisbury and its surrounding communities. The total employment generated by a Palmer or Holyoke casino will reduce the current (February 1999) Hampden County unemployment rate from 4.3% to 2.4% with the most dramatic impacts accruing to Palmer or Holyoke and the surrounding communities. The total employment generated by a New Bedford/Fall River casino will reduce the current (February 1999) Bristol County unemployment rate from 5.4% to 4.3% with the most dramatic impacts accruing to New Bedford/Fall River and the surrounding communities.

In addition to the impact on Bristol County, the model predicts that approximately one-third of new job creation will occur in other SouthCoast communities located in Plymouth County, but connected to the Fall River/New Bedford labor market areas by I-195.

Table 7. Impacts on Unemployment Rates and Welfare Dependency							
Jurisdiction	Labor Force Feb-99	Emplmnt Feb-99	Unemplmnt Feb-99	Rate Feb-99	Adjusted Labor Force*	Unemplmnt w/Casino	TANF Savings
Massachusetts	3,233,200	3,126,500	106,800	3.3%			
Bristol County	263,880	249,677	14,203	5.4%	264892	4.3%	\$2,591,424
Dartmouth	13,850	13,145	705	5.1%			
Fairhaven	7,828	7,440	388	5.0%			
Fall River	43,587	40,019	3,568	8.2%			
New Bedford	42,540	38,828	3,712	8.7%			
Essex County	359,865	345,592	12,605	3.5%	360857	2.4%	\$2,553,408
Amesbury	8,239	7,959	280	3.4%			
Merrimac	3,155	3,069	86	2.7%			
Newbury	3,308	3,216	92	2.8%			
Salisbury	3,854	3,664	190	4.9%			
Hampden County	209,170	200,090	9,080	4.3%	210212	2.4%	\$2,692,800
Palmer	5,932	5,637	295	5.0%			
Warren	2,436	2,309	127	5.2%			
Brimfield	1,584	1,499	85	5.4%			
Monson	3,803	3,638	165	4.3%			
Ludlow	10,429	9,776	653	6.3%			
Other Mass.							\$868,032
						Total	\$8,705,664
Notes: *Labor force adjusted to account for new labor market participation by former recipients of Temporary Assistance to Needy Families. The Coopers & Lybrand (1997, 14) national survey of casino employees finds that 8.5% received AFDC/TANF prior to their casino job. Other economic studies suggest that 154 persons are removed from TANF for every 1,000 new jobs created in New England (Arthur W. Wright & Associates 1993, 3). Estimates apply Coopers & Lybrand percentage to casino employees and Arthur W. Wright ratio to non-casino employment to estimate impact on TANF.							
The average monthly AFDC/TANF monthly payment per family in Massachusetts was \$528 (U.S. Census 1997, 390).							

3.43 Job Quality

The licensed operation of three casinos in Massachusetts will not only improve employment levels in Essex, Hampden, and Bristol Counties, it will improve job quality in traditionally low-wage service sectors. The average annual earnings (excluding benefits) of casino employees are from 7% to 79% higher than the annual earnings of employees currently working in similar industry sectors in the three counties (see Table 8). The earnings predicted by the model are consistent with the Coopers & Lybrand (1997, 11)

“typically offered better compensation programs and benefits by casino employers than in similar employment in other eating and drinking establishments.”

The earnings comparisons in Table 8 do not include tip income, which can equal three times the wages of dealers, waiters, and waitresses. It is common for casino employees in these and other service occupations to earn an additional \$6,000 to \$8,000 per year, which means that the actual average earnings of casino employees is approximately \$26,000 annually.

Table 8

COUNTY	1998 Avg. Annual Earnings (est.)	Casino Average Annual Earnings	Differential
SIC	(excludes benefits)	(excludes benefits)	
ESSEX	\$16,755	\$18,106	8%
Eating/Drinking (58)	\$10,375	\$18,021	74%
Misc. Retail (59)	\$18,462	\$20,611	12%
Hotels (70)	\$12,734	\$17,100	34%
Amusement/Rec. (79)	\$14,504	\$17,295	19%
BRISTOL	\$12,156	\$18,106	49%
Eating/Drinking (58)	\$12,221	\$18,021	47%
Misc. Retail (59)	\$18,796	\$20,611	10%
Hotels (70)	\$16,017	\$17,100	7%
Amusement/Rec. (79)	\$15,117	\$17,295	14%
HAMPDEN	\$14,926	\$18,106	21%
Eating/Drinking (58)	\$10,084	\$18,021	79%
Misc. Retail (59)	\$16,858	\$20,611	22%
Hotels (70)	\$14,926	\$17,100	15%
Amusement/Rec. (79)	\$14,704	\$17,295	18%
Source: Massachusetts Department of Employment & Training, ES-202 Data.			

In contrast to comparable non-casino jobs in the service sector, a majority of new casino jobs are full-time jobs with benefits. One-quarter of casino employees' total compensation is typically devoted to health care and other benefits, which is normally equal to an additional \$6,000 in annual benefits-related compensation. The Coopers & Lybrand employee impact survey found that 27% of casino employees now have health care benefits, which were not provided by their previous employer. Sixty-three percent (63%) of casino employees report that they now receive better health care benefits than previously because of their jobs in the casino industry (Coopers & Lybrand 1997, 2).

According to the same study, 43% of casino employees report that they now have better access to day care for their children either as an employer-sponsored benefit or because of their ability to afford better care. Furthermore, despite claims by many critics that casino employment is a “dead-end,” nearly two-thirds (65%) of casino employees

nationwide report that they have developed new job skills as a result of gaming industry employment (Coopers & Lybrand 1997, 2). Given the wide variety of occupations and skill levels required by a casino resort, casino employment can provide opportunities for advancement within the firm and it can provide entry-level opportunities for first-time seekers and individuals making the transition from welfare or unemployment.

4.00 FISCAL IMPACTS OF THREE CASINOS

The fiscal impacts of constructing and operating three casinos in Massachusetts consist of special gaming taxes levied on gross gaming revenues by the Massachusetts Casino Control Act, personal income tax payments by casino employees, indirect tax payments stimulated by casino operations, local property tax payments by the casino enterprise, and social savings from lower welfare rolls.

4.10 SPECIAL GAMING TAXES

The Massachusetts Casino Control Act levies 11% in special taxes on gross gaming revenues compared to a national average tax rate of 7.6% on land based casinos. The Act (Senate No. 352) levies a special 6% tax on gross gaming revenues (GGR) that is earmarked for Chapter 29 Direct Local Aid. The bill also levies a special 1.5% tax on each casino's GGR that is earmarked for the three host communities. An additional 1.5% tax on GGR is earmarked for distribution to communities immediately contiguous to the host community. Finally, Senate No. 352 includes a 1.5% tax on GGR to improve purses at the state's four race tracks, a 0.35% tax on GGR to support law enforcement, and a 0.15% tax on GGR to prevent and treat gambling problems.

Projections of special tax revenue generated by three casino resorts are based on an independent market analysis, which estimates that gross gaming revenues will be \$379.9 million annually at a Salisbury Beach casino; \$539.5 million annually at a Hampden County casino; and \$448.3 million annually at a Bristol County casino (ERA 1999, 19). Using these estimates and the special tax rates proposed in the Massachusetts Casino Control Act, three casino resorts will generate \$123 million annually in state aid to municipalities. This amount includes \$82 million in Chapter 29 Direct Local Aid; \$20.5 million in direct revenues to the three host communities; and \$20.5 million for distribution to municipalities immediately contiguous to the three host communities (see Table 9).

The three casinos proposed for Salisbury Beach, Hampden County, and Bristol County will generate an additional \$27.4 million annually for other purposes, including development of the greyhound and thoroughbred industries, law enforcement, and the prevention and treatment of gambling problems. This amount consists of \$20.5 million to improve the state's competitiveness in greyhound and thoroughbred racing; \$4.8 million for law enforcement; and \$2.0 million for the prevention and treatment of gambling problems.

Table 9. Estimated Gaming Revenues.

	Gross Gaming Revenues	Direct Local Aid (GGR/6%)	Host Comm. Tax (GGR/1.5%)	Contiguous Tax (GGR/1.5%)	Total Local Aid (6%+1.5%+1.5%)	Race Tracks (GGR/1.5%)	Law Enforcement (GGR/0.35%)	Gam Probs (GGR/0.15%)	Total Gaming Taxes (GGR/11%)
Salisbury Beach*	\$379,926,000	\$22,795,560	\$5,698,890	\$5,698,890	\$34,193,340	\$5,698,890	\$1,329,741	\$569,889	
Hampden County*	\$539,459,000	\$32,367,540	\$8,091,885	\$8,091,885	\$48,551,310	\$8,091,885	\$1,888,107	\$809,189	
Bristol County*	\$448,309,000	\$26,898,540	\$6,724,635	\$6,724,635	\$40,347,810	\$6,724,635	\$1,569,082	\$672,464	
	\$1,367,694,000	\$82,061,640	\$20,515,410	\$20,515,410	\$123,092,460	\$20,515,410	\$4,786,929	\$2,051,541	\$150,446,340
GRAND TOTAL		\$82,061,640	\$20,515,410	\$20,515,410					

Sources: *Economic Research Associates, *Gaming Market Analysis for Massachusetts Locations*, March 1999, p. 19.

4.20 STATE PERSONAL INCOME TAX PAYMENTS

The construction and operation of three casinos in Massachusetts will produce taxable personal income as a result of direct, indirect, and induced economic impacts. The IMPLAN model predicts that the construction phase of three casino resort developments will generate \$445,102,920 in total personal income and that the operations phase will generate \$361,716,034 in annual total personal income (excluding gratuities).

After taking all exemptions, deductions, and credits into consideration, the average effective personal income tax rate for Massachusetts is 5.2%. The effective personal income tax rate for non-joint filers is 4.8%, while the effective rate for joint filers is 5.4% (Commonwealth of Massachusetts 1999, 20). In estimating the personal income tax payments generated by three casinos in Massachusetts, the lowest effective tax rate of 4.8% has been applied to the personal income estimates derived from the IMPLAN modeling system.¹²

4.21 Construction Phase

It is estimated that the construction phase of three casino resort developments will generate \$21.4 in additional state personal income tax revenues.

4.22 Operations Phase

The operation of three casino resorts in Massachusetts will annually generate \$17.4 million in additional state personal income tax revenues annually.

4.30 INDIRECT BUSINESS TAXES

The IMPLAN modeling system derives the payment of indirect business taxes from U.S. Bureau of Economic Analysis Gross State Product data. Indirect business taxes are mainly comprised of sales and excise taxes collected by businesses as a result of business and consumer transactions.

4.31 Construction Phase

The model predicts that the construction phase of casino development will generate \$36.5 million in indirect business taxes.

¹² Any person who earns income from employment in Massachusetts must pay personal income tax on the income, regardless of place of residence. Consequently, there is no "income leakage" for purposes of state income tax payments, despite a small amount of employment leakage to residents of adjacent states.

4.32 Operations Phase

The model predicts that the operations phase of casino development will generate \$45.1 million in indirect business taxes.

4.40 LOCAL PROPERTY TAXES

The three casino resorts being proposed for Massachusetts each cost approximately \$300 million to construct, furnish, and equip. The construction cost has been discounted by one-third for purposes of local property tax assessment to yield a very conservative assessed valuation of \$200 million per facility. The application of Fiscal Year 1999 commercial property tax rates to this valuation would generate annual property tax revenues of \$3 million for Salisbury, \$3.5 million for Palmer, \$6.2 million for Holyoke, \$7.2 for Springfield, \$4.8 million for Fall River, and \$6.4 million for New Bedford. Local property taxes accruing to the host communities are in addition to the special tax on gross gaming revenues earmarked for host communities by the Massachusetts Casino Control Act.

Table 10. Estimated Property Tax Receipts for Casino Resorts			
Town	Valuation	FY 1999 Tax Rate (Commercial)	Tax Receipts
Salisbury Beach	\$200,000,000	\$15.14	\$3,028,000.00
New Bedford	\$200,000,000	\$32.21	\$6,442,000.00
Fall River	\$200,000,000	\$23.95	\$4,790,000.00
Palmer	\$200,000,000	\$17.64	\$3,528,000.00
Holyoke	\$200,000,000	\$31.24	\$6,248,000.00
Springfield	\$200,000,000	\$36.06	\$7,212,000.00
Source: FY 99 Commercial Tax Rates from Massachusetts Department of Revenue			

4.50 SOCIAL SAVINGS

It is estimated that increases in statewide employment due to casino operations will remove approximately 1,374 persons (10.3% of total new employment) from the state's Temporary Assistance to Needy Families program (see Section 3.42). The transition of these persons into the labor force will save the state approximately \$8.7 million annually based on the 1996 TANF monthly payments in Massachusetts (U.S. Bureau of Census 1998, 390; see Table 7 above). These projections are consistent with the findings of micro-level employee impact surveys conducted at various casinos in the United States (see section 4.90 below).

Further, the presence of a casino in a community has historically had a significant positive social impact through direct and indirect (e.g., employee United Way) to local charities and social service agencies.

4.60 POTENTIAL IMPACT ON THE STATE LOTTERY

In 1997, the Massachusetts State Legislature failed to act on legislation that would have authorized land-based casino gaming in Bristol County and Hampden County (H.B. 5518, 1997) and permit the installation of 700 electronic gaming devices (slot machines) at each of the Commonwealth's four commercial race tracks (H.B. 5520, 1997). The Joint Committee on Government Regulations, which is responsible for legislation concerning the state's lottery, pari-mutuel wagering, charitable gaming and bingo, and other forms of proposed gaming activity, did not issue a report on the proposed legislation. However, Representative Daniel Bosley (D-North Adams), Co-Chairman of the Joint Committee on Government Regulations, submitted his "gut feeling" to Representative Thomas Finneran (D-Mattapan), Speaker of the House, as a "*Report on Gaming Proposals, 1997*."

The Co-Chair's *Report on Gaming Proposals, 1997* recommended against any expansion of gaming in the Commonwealth. Among the reasons offered to support this recommendation was the claim that:

"casino gaming will adversely impact our [the Commonwealth's] state lottery and, consequently, the revenue stream of dollars flowing to our cities and towns in the form of Local Aid....we need to weigh the losses to the state lottery with the revenue gains, if any, that we could make from the proposed casinos" (Bosley 1997, i, 11).

The Center for Policy Analysis evaluated the potential impact of casino gaming on state lottery revenues with statistical techniques including pre-test/post-test intervention analysis, regression analysis, a correlation matrix, and comparisons to other states. The detailed results of that analysis are presented in a separate volume. However, an important finding of the analysis, based on comparative revenue data, is that total gaming revenues returned to the state – lottery, parimutuel, video terminals, and casinos -- have increased after the introduction of casinos in the ten states with commercial casinos. Some states report substantial increases in lottery revenues after the introduction of casino gaming, some report a slow down in the rate of lottery revenue growth, and only 2 states report a decline in lottery revenues.¹³

¹³ The Connecticut Division of Special Revenue commissioned a comprehensive study of the impact of casino gaming in Connecticut in 1996. The study, conducted by the WEFA Group, applies multiple regression modeling to ten years (FY 1987 to FY 1997) of Connecticut lottery data and concludes that "no impact from Foxwoods was found for Lottery sales in total or for sales of any individual Lottery game" in Connecticut.

4.70 LEGISLATIVE OVERSIGHT

The Massachusetts Casino Control Act (section 5(g)) includes legislative oversight provisions that allow the state to evaluate the proposed casinos' economic impact on the state and local communities. The Massachusetts Casino Control Act requires a Casino Enforcement Bureau to submit annual reports to the House and Senate Ways and Means Committees and the Joint Committee on Government Regulations. The legislation mandates that the annual report include data on gross revenue, net revenue, average depreciation of each casino licensee, the number of persons employed by each licensee, employee payroll information, and the assessed valuation of each licensed casino facility. Consequently, economic impact estimates, local vendor and employment preferences in the legislation, and other commitments by licensees can be monitored and verified under the proposed legislation.

4.80 SUBSTITUTION EFFECTS

The modeling system used to estimate the economic impacts of three casinos in Massachusetts predicts that the proposed facilities will generate positive indirect and induced impacts on off-site retail sales and non-casino eating and drinking establishments. In previous discussions of casino gaming in Massachusetts, critics argued that it is unrealistic to assume that casinos could "redirect" hundreds of millions of dollars in consumer spending without affecting existing businesses or spending patterns adversely (Bosley 1997, 13). This argument relies on the assumption that spending on casino gaming merely diverts spending from other "more productive activities." The alleged "substitution effect" of casino spending is often the basis for assertions that casinos cannibalize other local businesses, particularly small businesses in the retail, entertainment, and restaurant business.

There are numerous theoretical flaws with this argument starting with the assumption that local, state, or regional economies are a zero sum game in which no business can expand or grow except at the expense of other businesses. Amusement, recreation, leisure, and entertainment businesses are among the fastest growing sectors in the United States economy. The growth of this industry, including casino entertainment, is made possible by increases in disposable personal income and, consequently, these sectors can continue to grow without displacing other spending so long as disposable personal income continues to increase from year to year (Arthur Andersen 1996, 9).

Second, the argument about substitution effects ignores the fact that the U.S. economy is a service-based economy in which 2/3 of all economic activity is the result of consumer spending (Frumkin 1992). More than half of U.S. gross domestic product is generated by service industries, which include amusement, recreation, leisure and entertainment businesses as an increasingly important element of this "post-industrial" economy (Arthur Andersen 1996, 45-62). Hence, the concept of substitution effects

economy (Arthur Andersen 1996, 45-62). Hence, the concept of substitution effects remains controversial, because all consumer spending beyond basic necessities in some sense "substitutes" for other possible spending.

The IMPLAN modeling system accounts for substitution effects by applying local and regional multipliers to *disposal* personal income only. The modeling system's balanced accounts matrix insure that disposal which is spent on one type of good or service cannot be spent simultaneously on some other good or service. The application of multipliers to disposable personal income and the imposition of a balanced accounts matrix results in multiplier effects that are substantially less than those recommended in the U.S. Bureau of Economic Analysis Regional Input-Output Modeling System II (RIMS II).

Table 11 compares the IMPLAN employment and income multipliers used to generate indirect and induced impacts to an average of the applicable RIMS II multipliers recommended by the U.S. Bureau of Economic Analysis.¹⁴ The difference in multipliers is sufficient to account for a 35% to 45% total substitution effect, which is consistent with the highest estimates of substitution effect suggested by economists or consultants familiar with the gaming industry.

Table 11

Casino Location	IMPLAN Employment Multiplier	RIMS II Employment Multiplier	IMPLAN Income Multiplier	RIMS II Income Multiplier
Hampden County	1.195	1.6748	1.345	1.8238
Bristol County	1.283	1.6748	1.49	1.8238
Salisbury Beach	1.265	1.6748	1.463	1.8238

The argument that casinos cannibalize existing businesses is not supported by micro-level analyses of the gaming industry. For example, the Arthur Andersen (1997, 11, 28) "Micro Study" documents a net increase of eight restaurants in Bossier City, Louisiana following the introduction of riverboat casinos. The city's taxable restaurant sales, excluding restaurants in the hotels and casinos, increased by 5% in 1994 and by 7% in 1995 after the introduction of riverboat casinos (Arthur Andersen 1997, 11, 28).

In Biloxi/Gulfport, Mississippi, the rate of non-casino retail sales growth increased from an average of 3% annually (1990-1992) in the years prior to riverboat gambling to 12% annually in the years after riverboat gaming began in the locality (Arthur Andersen 1997, 33, 44). Restaurant sales in Biloxi/Gulfport have increased overall, although increased competition from national chains, and a migration of clients toward higher quality has forced some local restaurants to close. Nevertheless, the net economic welfare benefit is better quality, wider selection, increased overall sales and employment in eating and drinking establishments. Finally, along the Mississippi Gulf Coast overall hotel

¹⁴ The average is calculated from the multipliers for retail trade, hotels, advertising, accounting, eating and drinking establishments, and other amusement and recreation.

occupancy has increased from 55% in 1992 to 70% following the introduction of riverboat gaming (Arthur Andersen 1997, 46).

In 1995, two University of Minnesota economists conducted a study of the effects of Indian-owned casinos on self-generating economic development in non-urban areas of Minnesota. This unique study used the number of new business establishments in a town or city that can be attributed specifically to their proximity to a casino as the exclusive measure of economic impacts. The study's statistical methodology makes it possible to control for the effects of factors other than casinos on the number of new business establishments in a town or city. The study shows that since the introduction of casino gaming in Minnesota, most towns and cities within a 30-mile radius of a non-urban casino experienced marked growth in the number of local consumer and service business establishments that can be specifically attributed to the nearby casino. Communities located closest to the casinos enjoy the greatest growth in new businesses (Hoenack and Renz 1995). The study also found that casinos have succeeded in stimulating self-generating and sustained economic development in areas "where government economic development grants and intergovernmental transfers have failed" (Hoenack and Renz 1995).

Arthur Andersen conducted a study of the economic impacts of the Mystic Lakes Casino & Hotel in Scott County, Minnesota, which is included in the Twin Cities MSA. Mystic Lake Casino opened in May of 1992 and the hotel opened in July of 1996. The study finds that non-casino retail sales increased by 54% from 1990 to 1996. Hotel performance in the County was at a ten year low in 1990 before doubling in 1991 and continuing to increase from 1993 through 1995, even with the addition of new hotels. Retail sales in Scott County increased from approximately \$30 million in 1992, when casino gaming was introduced, to more than \$42 million in 1995 (excluding casino mall sales). Hotel gross sales in Scott County increased from \$4 million to \$5.7 million during the same period (Arthur Andersen 1998, 28, 31).

4.90 MICRO-STUDIES OF CASINOS IN NON-TRADITIONAL VENUES

During the last ten years, a number of economic “micro-studies” have been conducted of casinos in non-traditional venues. The studies have been conducted by state government agencies, private consulting firms, and university research institutes. The studies rarely receive any wide circulation, but they represent an ever expanding body of research which supports the general conclusions of more widely publicized national surveys such as those by Harrah’s (1997), Arthur Andersen (1996, 1997), and Coopers & Lybrand (1997). This section is a partial survey of studies conducted in non-traditional jurisdictions with casino gaming.

4.91 Demographics and Income

The University of Oregon conducted a survey of 5,100 Oregon residents in 1994 and found a strong correlation between income levels and casino gambling. The survey found that people with higher incomes spend more money and gamble more often than those with lower incomes (Oregon Survey Research Laboratory 1994). The survey, which was conducted prior to the operation of Native American casinos in Oregon, found that 16% of the state’s residents had gambled at a casino during the last twelve months. However, only 10% of those earning \$17,500 or less had gambled at a casino, while 25% of those earning \$90,000 or more had gambled at a casino.

In 1996, the Oregon Lottery commissioned a state economist to conduct a study of the state’s seven Native American casinos, which found that even though all of Oregon’s casinos are located in counties where household incomes are well below the state median (\$35,464), fifty percent (50%) of all casino visitors had 1989 household incomes between \$31,000 and \$36,000 per year (i.e., middle-income), while most other patrons had above average incomes. The study concludes that “compared to the whole state, very few visitors come from the low end of the income scale” (Whelan 1996, 46).

University of Wisconsin economists conducted a survey of patrons at St. Croix Casino in 1996, which found that 46% of casino patrons are middle-aged (between 46 and 65) or senior (23% are over age 65). The average household income of St. Croix Casino’s patrons was \$40,000 (1995 dollars), which means that most patrons had incomes at or above the state’s 1996 median household income of \$40,001. Only 14% of the casino’s patrons had a household income of less than \$20,000 (Deller et al. 1996, 51).

4.92 Employment

The existing studies of casinos in non-traditional gaming venues suggest that most casinos employ between 11.1 to 15.6 persons for each \$1 million in gross gaming revenues:

Riverboat casinos in Tunica County, Mississippi had 1998 gross gaming revenues of \$1 billion and draw 40,000 to 60,000 patrons per day. The county's casinos have 13,535 slot machines and 522 gaming tables. Tunica County's riverboat casinos employ more than 15,000 people and generate approximately 15 employees per \$1 million GGR (Langford 1999).

Coopers & Lybrand (1996, 3-5) conducted an economic analysis of Hollywood Casinos' two riverboat casinos in Aurora, Illinois in 1996. The study found that the two casinos employed 1,722 persons in 1995 with gross gaming revenues of \$146.3 million. The casinos generate approximately 11.8 employees per \$1 million in GGR. In the previous year (1994), the same casinos employed 1,547 persons with GGR of \$139.4 million or 11.1 employees per \$1 million GGR.

Foxwoods Casino Resort employed 15,590 in 1996 in all phases of its operation (WEFA Group 1997, 2-22) with gross gaming revenues of \$1 billion. The casino generates approximately 15.6 employees per \$1 million in GGR.

In 1995, New Mexico's eight Native American casinos employed 2,924 persons with gross gaming revenues of \$231 million, or 12.7 employees per \$1 million in GGR (Center for Applied Research 1996, 6).

In 1993, Michigan's Native American casinos reported gross gaming revenues of \$214.1 million and directly employed 2,681 people (University Associates 1994, 1). The casinos generate 12.5 employees per \$1 million in GGR.

In 1992, Native American gaming facilities in Minnesota provided direct employment to 9,975 with \$390 million in gross gaming revenues (KPMG Peat Marwick 1992, 1-2). The casinos generated 26.6 jobs per \$1 million GGR.

In 1992, Wisconsin's Native American casinos had gross gaming revenues of \$400 million and directly employed 4,500 persons. The casinos generated 11.3 employees per \$1 million in GGR (Murray 1993a; 1993b, 1-3).

In 1997, Minnesota's Indian casinos employed 11,465 persons with 95% of those persons employed on a full-time basis (Marquette Advisors 1997, 1). Total employment in Minnesota's gaming counties has increased nearly 67% faster than in non-gaming counties.

In 1996, Fantasy Springs Casino in Indio, California employed 518 persons with only 34 table games, 850 VLTs, and a bingo hall (Eyrich 1996).

In 1996, the St. Croix Native American Casino in Wisconsin employed 991 persons (Deller et al. 1996, 57).

In 1996, the Mytic Lake Casino and Little Six Casino in Scott County, Minnesota, together employed 3,900 persons. An employee impact survey found that 60% of the two casinos' employees were full-time employees and 40% were part-time employees (Arthur Andersen 1998, 9).

4.93 Unemployment and Social Welfare Dependency

A variety of employee impact surveys and government statistics indicate that casinos have a significant positive impact on local and regional unemployment rates and on rates of welfare dependency:

University Associates (1994) conducted an employee impact survey of Indian gaming enterprises owned by seven of Michigan's Indian tribes. The survey found that 34% of current workers (1993) had been welfare recipients and 38% had been unemployed just prior to their employment at the casino. An average of 70% of the employees are full-time and 34% receive health care benefits.

In Minnesota, an analysis of the state's non-urban counties with Native American gaming operations found a strong correlation between an increase in jobs in the non-urban counties and a decrease in AFDC recipients that occurred soon after the introduction of land-based casinos. The number of AFDC recipients decreased by 14% between 1987 and 1992 in the state's eight non-urban counties with Native American gaming facilities, while the statewide number of AFDC recipients increased 17% during the same period (KPMG Peat Marwick 1992, 2, 18).

The Minnesota findings were replicated for the period between 1990 and 1995 in a second study conducted by Marquette Associates. The study found that between fiscal years 1990 and 1995, AFDC payments in counties in the Twin Cities metro area increased by 3% and the number of recipients increased by 11.4%. By contrast, rural counties with Indian gaming facilities reported a 17.8% decline in AFDC payments and a 15.1% decline in the total number of recipients. Rural counties without Indian gaming facilities also reported declines in annual AFDC payments (-14.3%) and in the total number of recipients (-5.6%), although not as great as in rural counties with Indian casinos.

A University of Wisconsin 1996 employee impact survey of the St. Croix Casino found that 36% of the casino's employees had been unemployed prior to their casino job and that 13% had been receiving some type of public assistance (AFDC, food stamps) before obtaining jobs at the casino (Deller et al. 1996, 14). A county-wide drop in unemployment levels and welfare rolls was "partially linked to the casino" according to the University of Wisconsin economists who conducted the survey.

A study by the University of Wisconsin Cooperative Extension found that in 1992 nearly 52% of gaming employees in the state's Indian-owned casinos had been unemployed just prior to their casino job, with many of them receiving unemployment

insurance or public assistance. A large percentage of casino employees (18.2%) in Wisconsin had been receiving public assistance, mostly AFDC, before obtaining employment at a casino (Murray 1993a, 1993b). The same study found that between 1989 and 1992, AFDC benefit payments decreased by 14% in counties with casinos, decreased by 8.7% non-metropolitan counties without casinos, and increased by 4.3% in the state's metropolitan area (Murray 1993b, 1).

A survey of 2,700 employees at six Minnesota Native American casinos found that 11.5% of casino employees had been receiving unemployment assistance and 5.7% had been receiving some form of public assistance just prior to casino employment. Fifteen percent (15%) of the employees had been out of work for 6 months or more (Marquette Advisors 1997, 13). Between 1992 and 1995, rural counties with Indian gaming facilities reported a 2.1% decline in total unemployment insurance payments and a 10.9% decline in the number of claimants. During the same period, rural counties without Indian gaming facilities reported only a 1.5% decline in total benefit payments and a 9.1% decline in claimants.

Arthur Andersen (1997) finds that in the Shreveport/Bossier City, Louisiana area, AFDC payments dropped 14% in 1995 and by another 15% in 1996 after the introduction of riverboat gambling. The number of food stamp recipients in those same communities dropped by 15% in 1996.

After the introduction of riverboat gambling in Joliet, Illinois, the unemployment rate dropped in Will County from 12% in 1992 to 9% in 1994, while the number of food stamp recipients dropped by 15% between 1993 and 1995 (Arthur Andersen 1997, 10-11).

The number of food stamp recipients has dropped each year since 1993 in Biloxi/Gulfport, Mississippi since the introduction of riverboat gambling, which contrasts sharply to a steady increase in food stamp recipients in the years prior to riverboat casinos (Arthur Andersen 1997, 33).

The unemployment rate in Tunica County, Mississippi has dropped from 26.2% (January 1992) to 5.6% (February 1999) since casino gambling was legalized in Mississippi and casinos began operations in that county. The number of people receiving food stamps in Tunica County has declined 56% between 1992 and 1997 (Langford 1999).

SOURCES CONSULTED

- Arthur Andersen. 1996. *Economic Impacts of Casino Gaming in the United States, Volume 1: Macro Study*. Washington, D.C.: American Gaming Association.
- Arthur Andersen. 1997. *Economic Impacts of Casino Gaming in the United States, Volume 1: Micro Study*. Washington, D.C.: American Gaming Association.
- Arthur Andersen. 1998. *Economic Impacts of the Enterprises of the Mdewakanton Sioux (Dakota) Community on Scott County*.
- Arthur W. Wright & Associates. 1993. *The Economic Impacts of the Foxwoods High Stakes Bingo & Casino on New London County and Surrounding Areas*. Ledyard, Conn.: Foxwoods Resort.
- Barrow, Clyde and David R. Borges. 1995. *Patron Origination Analysis: Foxwoods Resort Casino*. North Dartmouth: Center for Policy Analysis.
- Bosley, Daniel. 1997. *Report on Gaming Proposals, 1997*. Boston: Massachusetts House of Representatives, Committee on Government Regulations.
- Bureau of Indian Affairs, U.S. Department of Interior. 1998. *Tribal State Compact List, 11/24/98*. Available on-line at <http://www.doi.gov/bia/foia/compact.htm>
- Burke, Anne. 1999. "Rivals No Longer." International Gaming & Wagering Business (March): 63-65.
- Brucker, Sharon M., Steven E. Hastings, and William R. Latham III. 1990. "The Variation of Estimated Impacts from Five Regional Input-Output Models." International Regional Science Review 13: 119-39.
- Cannon, Greg. 1998. "A Change in Odds of Gambling: Pressure is Building to Pass Video Gaming." *Keene Sentinel* (December 1).
- Carey, Kate. 1999. "Tribe stacks 35 stories onto casino expansion." *Norwich Bulletin* (February 2).
- Center for Applied Research. 1995. *Indian Reservation Gaming in New Mexico: An Analysis of its Impact on the State Economy and Revenue System*. Denver.
- Center for Applied Research. 1996. *The Benefits and Costs of Indian Gaming in New Mexico*. Denver.
- Coccimiglio, Joseph. 1999. "The Gaming Industry." Fortune (February 1): 43-49.

- Cohn & Wolfe. 1999. *A Report on America's Casino Gaming Industry*. Washington, D.C.: American Gaming Association.
- Commonwealth of Massachusetts. 1999. *Massachusetts Statistics of Income: 1995 Individual Income Tax Returns*. Boston: Department of Revenue, Office of Tax Policy Analysis.
- Coopers & Lybrand. 1997. *Gaming Industry Employee Impact Survey*. Washington, D.C.: American Gaming Association.
- Coopers & Lybrand. 1996. *Economic Impact Analysis of Hollywood Casino-Aurora, Inc.* Philadelphia.
- Deller, Steven C., Amy Lake, and Jack Stroka. 1996. *The St. Croix Casino: A Comprehensive Study of its Socioeconomic Impacts*. Madison: University of Wisconsin – Extension.
- Deloitte & Touche, LLP. 1993. *A Historical Review of Gaming in the United States*. Washington, D.C.: National Indian Gaming Association.
- Economics Research Associates. 1999. *Gaming Market Analysis for 3 Massachusetts Locations*. Plamer, Mass.: Committee for Palmer Growth and Development.
- Executive Office of the President, Office of Management and Budget. 1987. *Standard Industrial Classification Manual*. Springfield, Virginia: National Technical Information Service.
- Eyrich, Gerald I. 1996. *Economic Impact Analysis: Cabazon Band of Mission Indians*. Claremont, Calif.: Constituent Strategies, Inc.
- Frumkin, Norman. 1992. *Tracking America's Economy*, 2nd Edition. Armonk, N.Y.: M.E. Sharpe, Inc.
- Gaming Strategy Group. 1996. *The Impact of Casinos and Gaming Devices on the Massachusetts State Lottery: Final Report*. Boston: Massachusetts State Lottery Commission.
- Graham, Jim. 1999. "Senate President Puts Chips on Gambling Plan." *Concord Monitor* (March 4).
- Greenwood, Michael J., Gary L. Hunt, and John M. McDowell. 1986. "Migration and Employment Change: Empirical Evidence on the Spatial and Temporal Dimensions of the Linkage." *Journal of Regional Science* 26 (2): 223-34.

- Groark, Virginia. 1999. "Mohegans are rising stars on Wall Street." *The New London Day* (February 25).
- Harrah's Entertainment, Inc. 1997. *Harrah's Survey of Casino Entertainment*. Memphis, Tennessee.
- Hoenack, Stephen A. and Gary Renz. 1995. *Effects of the Indian-Owned Casinos on Self-Generating Economic Development in Non-Urban Areas of Minnesota*. Plymouth, Minnesota: Stephen A. Hoenack and Associates.
- KPMG Peat Marwick. 1992. *Economic Benefits of Tribal Gaming in Minnesota, 1992*. Duluth: Minnesota Indian Gaming Association.
- Langford, David L. 1999. "Tunica's luck: Casinos light up Miss. Cotton field." *New Bedford Standard-Times* (April 11).
- Marquette Advisors. 1997. *Economic Benefits of Indian Gaming in the State of Minnesota*. Minneapolis.
- Minnesota IMPLAN Group, Inc. 1997. *IMPLAN Professional: User's Guide, Analysis Guide, Data Guide*. Stillwater, Minnesota.
- Murray, James M. 1993a. *The Economic Benefits of Native American Gaming in Wisconsin*. Madison: Wisconsin Indian Gaming Association and University of Wisconsin - Cooperative Extension. Madison: Wisconsin Indian Gaming Association and University of Wisconsin - Cooperative Extension.
- Murray, James M. 1993b. *The Economic Impact of American Indian Gaming on the Government of the State of Wisconsin*.
- Oregon Survey Research Laboratory. 1994. *1994 Oregon Population Survey*. Eugene: University of Oregon.
- Ryan, Carolyn. 1999. "Poll: Mass. Voters at odds over gambling." Boston Herald, (February 14).
- State of Connecticut, Division of Special Revenue. 1999a. *Foxwoods Casino: Schedule of Selected Video Facsimile/Slot Machine Data For the Period January 1, 1993 Through January 31, 1999*. [On-line]. <http://www.state.ct.us/dosr/foxvfsmd.htm>
- State of Connecticut, Division of Special Revenue. 1999b. *General Fund Revenues, Fiscal Year 1972-1998*. [On-line]. <http://www.state/ct/us/dosr/Gnrlfundrev.htm>

- State of Connecticut, Division of Special Revenue. 1999c. *Mohegan Sun Casino: Schedule of Selected Video Facsimile/Slot Machine Data For the Period January 1, 1993 Through January 31, 1999*. [On-line].
<http://www.state.ct.us/dosr/foxvfsm.htm>
- U.S. Department of Commerce, Bureau of Census. 1998. *Statistical Abstract of the United States*. Washington, D.C.: Government Printing Office.
- U.S. Department of Commerce, Bureau of Economic Analysis. 1981. *Regional Input-Output Modeling System (RIMS II): Estimation, Evaluation, and Application of a Disaggregated Regional Impact Model*. Washington, D.C.: Government Printing Office.
- U.S. Department of Commerce, Bureau of Economic Analysis. 1994. *Benchmark Input-Output Accounts of the United States, 1987*. Washington, D.C.: Government Printing Office.
- U.S. Department of Commerce, Bureau of Economic Analysis. 1994. *Local Area Personal Income, 1969-1992*. Washington, D.C.: Government Printing Office.
- U.S. Department of Commerce, Bureau of Economic Analysis. 1997a. *Regional Multipliers: A User Handbook for the Regional Input-Output Modeling System (RIMS II)*, 3rd Edition. Washington, D.C.: Government Printing Office.
- University Associates. 1994. *Michigan Indian Gaming Enterprises: Highlights of Economic Impact of Michigan's Indian Gaming Enterprises*. Lansing, Michigan.
- WEFA Group. 1997. *A Study Concerning the Effects of Legalized Gambling on the Citizens of the State of Connecticut*. Eddystone, Penn.
- Whelan, Robert M. 1996. *An Analysis of the Gaming and Casino Markets in Oregon*. Eugene: Oregon Lottery.

